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**Value of Experience Papers**

WE are glad to see, in the program of the Toronto Convention of the American Water Works Association, that there has been some response to Secretary Diven's appeal for "experience papers," detailing many minor experiences in the lives of water works engineers and managers. There are ten small plants in this country to one large one, and the man who has charge of the small plant is often in more need of help and advice than his presumably more experienced brother of the metropolis. And even the latter would probably profit more by information concerning minor "wrinkles" than by descriptions of gigantic undertakings, each of which must be made a special study and have little in common with others. We are sure that such papers as "Repairing a Broken Force Main" will be of more general value than would a description of, say, New York's new water supply, interesting as the latter would be. As the author of one of these experience papers says: "I believe that we (of the small plants) can teach these big brothers something if we will only make the attempt."

And the above applies to a journal like this as much as to a society convention. If those concerned in the

maintenance of municipal departments would only send us brief accounts of their experiences they would all benefit mutually. We can glean a few such from their municipal reports, we gather a few by personal visits, but many a good idea is buried in relative obscurity because of the false modesty of its originator.

**Double Systems of Water Mains**

SOME years ago there was quite an agitation on the part of at least two or three water works experts in behalf of a double system of piping water into cities, one for the purest obtainable water to be used for drinking only and such other purposes as call for a sanitary supply, the other and larger mains to carry a supply which was not necessarily potable, and which could consequently in many cases be obtained more cheaply. This proposition was, we believe, never seriously considered by any city in this country, although it has already been adopted in Paris and a few other cities abroad. What sanitary considerations, however, could not bring about, more immediately utilitarian ones have effected; and many cities have introduced a double system of mains into certain sections of their territory, one being for a high pressure fire supply, while the other was to serve all other purposes.

In designing the ordinary pipe system of a water supply it is, as is well known, the customary practice to design all mains of a capacity to permit bringing to the fire hydrants a sufficiently abundant supply for fire purposes, and this size will often be several times that which would be required for other purposes only. That this is the case may be seen from a hasty calculation. It should be possible to bring under a good head to each fire hydrant at least two streams of 250 gallons per minute each, which would amount to 30,000 gallons per hour or 360,000 during a household day of say 12 hours. There should be a fire hydrant for each 400 feet or less of main, which in an ordinary residence district would mean about one fire hydrant for each 20 residences. Assuming six persons to a residence and 100 gallons per capita consumption of water the amount of water used in that distance for household purposes would be 12,000 gallons per day, or at a rate only 1-30 of that required for fire purposes. If we assume that this household water is actually used in four hours of the day, rather than twelve, we still have a rate only 1-10 as great as the fire rate; and since the household pressure does not need to be as great as that desirable for fire hydrant use, the area of the pipes to meet such conditions could be even less than 1-10; or the diameter could be about  $\frac{1}{4}$ . This applies, of course, only to the smaller pipes of the reticulation system; the

mains by which the entire city is supplied would, in many cases, need to be almost, if not quite, as large, even if no provision were made for fire protection; but we believe that in the majority of cases the average weight and cost of pipe required could be reduced by at least one-half or two-thirds if they were not required to furnish a fire supply. From the above it would seem to follow that where auxiliary high pressure water mains have been introduced the old mains are now much larger than is really necessary; and if, in future designing, such auxiliary systems should be included as a part of the original construction, a considerable saving might be effected in the cost of the pipes for the ordinary supply. The two principal objections to the proposition referred to in the opening paragraph were the cost of the dual system of piping, and the belief that such expense would fail to bring about commensurate results because of the tendency of many, from carelessness or ignorance, to drink as freely from the non-pure as from the pure supply. If, however, the two lines of pipe are already in, the first argument disappears; and it would seem at least worth while to make a test of the dual system referred to in order to enjoy its accompanying advantage of reducing the supply of pure water necessary (which pure water is nowadays becoming more and more expensive as the necessity for filtration becomes more general and more generally recognized). The fire mains, since they exist and are always kept full of water, could then be used for the non-pure supply, and the other pipes for the pure supply only. Even if only the pure water were piped into the houses, to be used there for all purposes, there would be considerable saving effected, the other supply being drawn upon for all water used in sprinkling streets, flushing sewers, for boiler water and manufacturing purposes, for hydraulic elevators and a variety of other purposes for which large quantities of water is used in all of our large cities.

## TESTING OF PORTLAND CEMENT

Simple Tests, Requiring Only Home-Made Apparatus, for Soundness, Time of Setting, Purity and Strength

It is the opinion of many engineers and others that one of the influential factors in bringing about the great improvement in the quality of the American Portland cement has been the growing custom of testing all cements used on both private and public work. Most of the reliable manufacturers at present turn out little poor cement, but there are some unscrupulous ones and others whose superintending force is inefficient in maintaining uniformly good output; and even the best of plants, when rushed, may turn out cement poorly burned or ground; and it is therefore advisable for all users of cement, and not the least for city engineers, to provide themselves with facilities for making such tests, in at least an approximate way, which will protect them against inferior material. Mr. W. Purves Taylor, engineer in charge of the

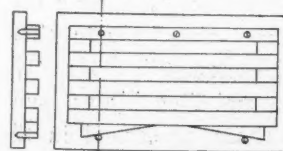
Philadelphia Municipal Testing Laboratories, has described a few simple tests which can readily be made by anyone, and yet which will effect the above purpose. These tests are for Soundness, Time of Setting, Purity and Strength.

*Soundness.*—Place about a half pound of cement on a clean metal or glass surface; form it into a crater and into this pour about 20 per cent. of its weight of water and mix thoroughly until a stiff, uniform paste is obtained. Make of this a ball about two inches in diameter and drop it on the table from a height of about two feet; if it flattens more than half its depth the paste is too wet, and is too dry if it cracks badly; in either case add more either of water or cement and mix thoroughly to the right consistency. In a can about a foot high place a piece of wire netting raised about two inches from the bottom; pour about one inch of water into the can and place on the netting the two-inch ball of cement formed as above; place a tight cover on the can and put it in a cool place for twenty-four hours. Then fill the can with water well above the cement ball, place it on a stove (with the cover removed) of such heat that the water will boil in about a half hour; continue boiling gently for three hours, replacing any loss with other boiling water from time to time. Then remove and examine the ball. It should be sound and hard. If disintegrated, checked or cracked, the cement is probably of inferior quality and untrustworthy, although in some cases it may be merely that the material is too fresh, in which case a second test a month or so later will be satisfactory.

*Time of Setting.*—Place another ball similar to the first away from the sun or other source of heat, or any strong current of air, for twenty minutes. It should then still be pliable, damp on the surface, and should not feel warm. After ten hours in the same place, it should be dry, firm and so hard that a firm pressure of the thumb nail will not dent it. If it does not pass the twenty-minute test, the cement is too quick setting. If it does not pass the second test, it is too slow.

*Purity.*—Put a thimbleful of cement in a china or glass dish and on it pour about three times its volume of a mixture of one part water and three parts muriatic acid. Pure Portland cement effervesces violently for a second or two, then forms a yellowish jelly. Continued effervescence shows an adulteration with lime-stone or natural cement. Cinder or sand appears as a sediment at the bottom of the jelly. The presence of slag is indicated by the characteristic putrid odor of hydrogen sulphide. All of these adulterations are objectionable.

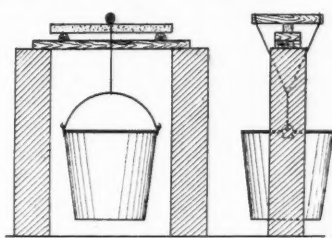
*Strength.*—Anything like an accurate test of this by simple methods is quite difficult, but Mr. Taylor recommends the following: Make a mold, as shown in the figure, of a planed board and four one-inch strips of wood. Fasten one outside strip to the board by screws and place two other screws, as shown in the illustration, about seven



MOLD FOR MAKING PRISMS



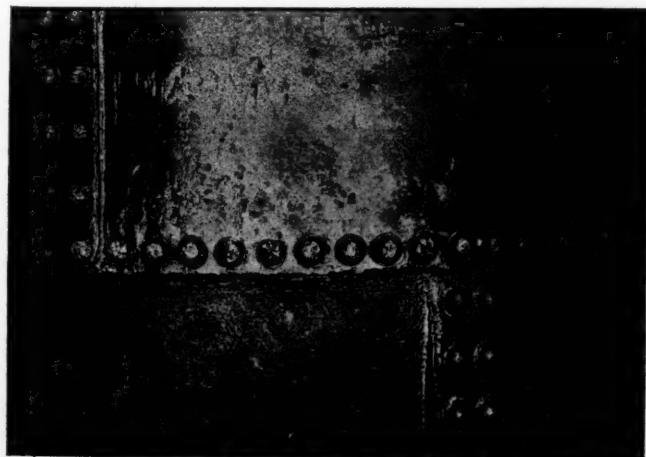
inches from the edge of this strip, then separate the strips by short one-inch spacers, as shown, and hold them firmly in place by wedges. These form three molds 1 in. by 1 in. by 12 in. long, which should be filled with cement mortar of say one part cement to three of sand, thoroughly mixed dry and then wet to a stiff paste, pressing the material in firmly and smoothing off the top with a trowel (the molds should be oiled slightly to prevent the mortar from sticking). Place the mold with the mortar in it in a cool, damp place for twenty-four hours, then knock out the wedges and remove the prisms of mortar and place them in fresh water. Leave them in this for six days, or longer if desired.



APPARATUS FOR TESTING STRENGTH. The testing apparatus consists of a pail, a board, a broom handle or other round piece of hard wood about one inch in diameter, and some stout cord. The round piece of wood is cut into two, three or four-inch pieces and one about six or eight inches long, the former being flattened on one side. The illustration clearly shows the use of these; the flattened pieces of wood being placed under the cement prism, their lines of contact with it being exactly ten inches apart and the long piece resting exactly midway between them. Slowly pour sand into the pail until the prism breaks. Carefully weigh the bucket, cord and attached stick. The tensile strength will then equal ten times this weight, and the compressive strength fifty times this weight (if the prism is not exactly one inch square at the section of breaking, divide the weight by the product of its width at this point times the square of its depth, both in inches). If the average of three prisms shows a less tensile strength than 120 pounds in seven days or 180 pounds in twenty-eight days with 1:3 mortar, either the cement or sand is inferior. Of these tests, that for strength is least accurate, and also least important for most classes of work.

### REPAIRING STEEL WATER MAINS

IN 1893 and 1894 the City of Rochester, N. Y., constructed about 26 miles of 38-inch steel pipe leading to



38-INCH ROCHESTER CONDUIT, SHOWING PITTED STEEL.

their Mt. Hope reservoir. This pipe was made of steel plates from 1-4 to 3-8 inch in thickness. In 1901 and 1902 examinations were made of this pipe line, because of leaks which were found therein, and it was discovered that in certain sections considerable rusting and pitting of the steel was taking place, which, after careful physical and chemical examinations, was attributed to nothing peculiar in either soil or water, but as probably being due to the nature of the coating; and the remedy therefor which was adopted was the repairing of leaks wherever found in their incipency and the re-coating of such sections as appeared most liable to these defects. Since that time and up to January 1, 1906, ninety-one leaks had been repaired and 3,281 feet of conduit had been recoated.

The usual procedure of repairing a leak through a pit hole in the steel plates is described as follows in the annual report of the Department of Public Works: "After excavating to the pipe a dry pine plug is driven to temporarily stop the flow of water, said plug being cut off flush with the outside of the pipe. The coating is scraped off clean and the metal dried, after which a coat of mineral rubber is applied. A sheet lead gasket is then beaten down into contact with the concave side of a steel patch, curved to fit the pipe. The patch and gasket are then applied to the pipe and tightly drawn up by means of a 2-part band of 1-2x2 inch iron, bolted together. The edges of the lead are then calked and the whole given another coat of mineral rubber. In some cases where the leak has been near the lap of longitudinal and round seams, or where riveted heads hinder the ordinary procedure, the steel patch is first applied, spaced a short distance from the pipe, and the intervening space run with hot lead, after which the edges are calked as before. When, however, the patch has to cover considerable area, due to a series of holes or pitted places, which are so continuous as to preclude the use of individual small patches, or where the plate is so weakened as to need a continuous cover plate of considerable size, it is impossible to pour hot lead into the broad thin space below the plate, as it is too rapidly chilled by the water in the pipe. In such circumstances an elastic cement, sold under the trade name of 'Pyrocenit' and manufactured at Paterson, N. J., has been successfully used. This material is furnished in two parts, a powder and a liquid, which are intimately mixed to form a stiff paste. It sets slowly, expands slightly upon setting, and adheres closely to the metal, which it is also said to preserve. The liquid which forms a part of this cement does not freeze in our climate. Satisfactory tests have been made with 'Pyrocenit' as a joint material for cast iron pipes. It is apparently watertight, and for convenience will be used in future repairs to the steel conduit in place of hot lead."

### High-Pressure Fire Services

IN view of the fact that the city had 413 alarms last year, Chief H. L. Marston of the Fire Department of

Brockton, Mass., is desirous of having a high-pressure water service installed in that city; and he seems in a fair way to have his wish, as the Legislature, on May 27, admitted a petition for Brockton to issue \$150,000 in bonds for such a system. The Massachusetts cities of Holyoke, Fall River, Haverhill, Fitchburg, Worcester and Taunton already have such a service, says Mr. Marston. Worcester has but seven fire engines, whereas at least fifteen would be required for the same efficiency without high pressure.

## STANDARD SPECIFICATIONS FOR WATER PIPE

Report of Committee of American Water Works Association—  
Comparison with New England Water Works  
Association Specifications

THE Committee on Water Works Standards of the American Water Works Association presents at the Toronto Convention this year a report upon standard specifications for cast iron water pipe and special castings which is the result of practically all of its efforts during the past year. Its aim was to produce, if possible, a single specification for this material which can be agreed upon and adopted by all of those who buy and use water pipe, as well as those who manufacture and sell the same; and it expresses its belief that it has produced a result which can be adopted not only without any loss, but with mutual benefit to all concerned. The Committee is composed of Charles A. Hague, Chairman, Consulting Engineer, New York City; Theodore A. Leisen, Chief Engineer of the Water Department of Wilmington, Del., and W. D. French, Superintendent of the Hackensack Water Company, Weehawken, N. J. At the convention last year, this committee reported that their endeavor to obtain a meeting between themselves and three members each from the New England Water Works Association, American Water Works Association, American Society for Testing Materials, Western Society of Engineers and Manufacturers' Committee had occupied so much time that they could not arrive at conclusions in time for that convention, and they were continued for further consideration, the results of which are embodied in the report now presented. The standard specifications which they suggest follow very closely those which were adopted by the New England Water Works Association on September 10, 1902, and which have already been used by a considerable number of cities and also by pipe foundries, frequently with slight modifications. Most of the variations from the N.E.W.W. specifications are merely verbal changes designed to make the meaning more clear. One change of matter consists in the classification of weights; whereas the old specifications called for two standards of outside diameter for pipes from 4 to 16 inches in diameter, the new ones add pipes up to 24 inches, inclusive, to this class, and increase the number of standards for the larger sizes from three to four; the new specifications reading "for pipes of each size from 4 to 24 in diameter, inclusive, there shall be two standards

of outside diameter, and for each larger size four standards of outside diameter." Probably the most important change is in the number of classes provided for. In the original table the 4-inch pipe was divided into classes A, C, E, G, I, and K; 6 and 8-inch pipe into A, C, E, G and I; 10, 12, 14 and 16-inch pipe were classified as A, B, C, D, E, F, G and H; and the larger sizes as A, B, C, D, E and F. In the proposed new specifications four classes only, namely, A, B, C and D, are proposed for all sizes from 4 to 16-inch, inclusive. This change, of course, requires corresponding changes in a number of places in the specifications; for instance, the early specifications called for class D castings for A, B, C and D pipe of 18 to 24 inches diameter, and class F castings which E and F pipe; whereas the new specifications call for class B castings with A and B pipe, and class D castings with C and D pipe. In the new specifications for all pipe 30 inches in diameter and larger, castings shall be furnished for each of the four classes. There is also added the following paragraph which does not appear in the earlier specifications. "Pipes whose thickness and weight are intermediate between the classes in table No. 2 (the table of weights of pipe) shall be made of the same outside diameter as the next heavier class. Pipes whose thickness and weight are less than shown by table No. 2 shall be made of the same outside diameter as class A pipes; and the pipes whose thickness and weight are more than shown by table No. 2 shall be made of the same outside diameter as class D pipes." To section No. 3 there is added the sentence "For special castings of standard patterns a variation of 50 per cent. greater than allowed for straight pipes shall be permitted." In connection with the casting of pipes the new specifications call for casting of all pipes with the hub end down; whereas in the old specification pipes 16 inches or less in diameter could be cast with the hub end either up or down, at the option of the manufacturer. In section 16 the sworn statement of the contractor as to the tests made upon the iron does not limit these to transverse tests.

The table of dimensions shows the omission from the old table of the heaviest classes of 18, 20 and 24-inch pipe, and on the other hand there is added to the sizes larger than 24-inch a fourth size heavier than any given in the earlier table. The face of the hub, letter B in the sketch accompanying both the earlier and the latter table, is made 3.20 inches for all sizes larger than 48-inch, instead of increasing up to 4 inches as in the earlier table. In standard thicknesses and weights considerable differences are found; and the new table gives—a convenience which the old one lacked—the heads and pressures which the various classes were calculated to be suitable for. There is also added tables of dimensions, thicknesses and weights of extra heavy pipe for fire lines and other high-pressure services, divided into four classes, E, F, G and H, for sizes up to 20-inch; two classes, E and F, for 24-inch to 36-inch; two classes of special castings being furnished for the pipe up to 24-inch, and one class for the larger sizes. The increase in thickness of pipe recommended by the committee is shown by the following table:



## Standard Thicknesses and Weights of Cast Iron Pipes, Twelve Feet in Length and Exclusive of Sockets

## NEW SPECIFICATIONS

Nominal Inside Diam., Inches.	CLASS A. 100 FT. HEAD. 43 LBS. PRESSURE.			CLASS B. 200 FT. HEAD. 86 LBS. PRESSURE.			CLASS C. 300 FT. HEAD. 130 LBS. PRESSURE.			CLASS D. 400 FT. HEAD. 173 LBS. PRESSURE.			Nominal Inside Diam. Inches.
	Thick- ness, Inches.	Weight, Lbs., Per		Thick- ness, Inches.	Weight, Lbs., Per		Thick- ness, Inches.	Weight, Lbs., Per		Thick- ness, Inches.	Weight, Lbs., Per		
		Foot.	Length		Foot.	Length.		Foot.	Length.		Foot.	Length.	
4	.41	20.0	240	.45	21.7	260	.48	23.3	280	.52	25.0	300	4
6	.44	30.8	370	.49	33.3	400	.52	35.8	430	.57	38.3	460	6
8	.47	42.9	515	.52	47.5	570	.57	52.1	625	.63	55.8	670	8
10	.50	56.7	680	.56	63.3	760	.63	70.8	850	.70	78.9	935	10
12	.53	71.2	855	.61	80.8	970	.69	91.6	1,100	.77	101.6	1,220	12
14	.57	90.0	1,080	.66	101.6	1,220	.75	115.8	1,390	.83	127.5	1,530	14
16	.60	108.3	1,300	.70	124.2	1,490	.80	142.5	1,710	.90	158.3	1,900	16
18	.63	126.6	1,520	.75	148.3	1,780	.86	170.0	2,040	.97	191.6	2,300	18
20	.66	146.6	1,760	.79	174.1	2,090	.92	201.6	2,420	1.04	229.1	2,750	20
24	.72	190.8	2,290	.88	231.6	2,780	1.03	270.0	3,240	1.16	305.8	3,670	24
30	.81	269.1	3,230	1.01	329.1	3,950	1.20	391.6	4,700	1.34	448.7	5,385	30
36	.90	355.8	4,270	1.13	442.5	5,310	1.37	533.3	6,400	1.58	625.0	7,500	36
42	1.00	461.6	5,560	1.27	580.8	6,970	1.53	696.6	8,360	1.78	825.0	9,900	42
48	1.10	580.8	6,970	1.40	731.6	8,780	1.70	883.3	10,600	1.96	1050.0	12,600	48
54	1.20	716.6	8,600	1.54	908.3	10,900	1.90	1125.0	13,500	2.23	1333.3	16,000	54
60	1.30	858.3	10,300	1.70	1108.3	13,300	2.10	1375.0	16,500	2.38	1583.3	19,000	60

## OLD SPECIFICATIONS

Lightest				Heaviest			
4	.34	14.80	200	Four intermediate classes.....	.48	21.30	280
6	.38	24.32	330	Three " " " " " " " " " " " "	.54	34.79	445
8	.42	35.58	475	Six " " " " " " " " " " " "	.63	53.62	690
10	.47	49.04	650	" " " " " " " " " " " "	.70	73.53	935
12	.49	61.14	810	" " " " " " " " " " " "	.77	96.22	1,220
14	.53	76.85	1,010	" " " " " " " " " " " "	.83	120.74	1,530
16	.55	90.98	1,215	Four " " " " " " " " " " " "	.90	149.3	1,900
18	.57	104.5	1,400	" " " " " " " " " " " "	.86	159.0	2,040
20	.60	121.9	1,610	" " " " " " " " " " " "	.92	189.5	2,420
24	.64	155.6	2,050	" " " " " " " " " " " "	1.03	253.5	3,240
30	.71	215.3	2,860	" " " " " " " " " " " "	1.20	367.5	4,700
36	.79	287.0	3,800	" " " " " " " " " " " "	1.37	502.0	6,400
42	.87	368.4	4,920	" " " " " " " " " " " "	1.53	654.4	8,360
48	.95	459.3	6,130	" " " " " " " " " " " "	1.70	829.4	10,600
54	1.03	559.8	7,510	" " " " " " " " " " " "	1.90	1,042.7	13,500
60	1.10	664.0	8,000	" " " " " " " " " " " "	2.10	1,280.0	16,500

The weights for fire lines and other high-pressure services, together with the heads for which they are considered adapted, are shown by the following table, the pressures provided for reaching as high as 800 feet head, or 347 lbs. to the sq. inch.

It hardly seems necessary to refer to the advantages which would accrue from the general recognition and adoption of a standard set of specifications by all users and manufacturers of cast iron pipe. Where such are adopted without variation it would be necessary simply to specify that "the pipe to be furnished shall conform to the standard specifications, and shall be of the dimensions and weights therein specified for class A, B, etc."

We can hardly conceive of any valid reason for not adopting these standard specifications except a difference of opinion, based on scientific or practical grounds concerning some particular item thereof; and if there are such differences of opinion it is to be hoped that they will be brought out at the coming convention and fully discussed, and that the conclusions indicated by the majority opinion will be accepted by the minority, since it is hardly probable that any items concerning which differences may arise will be of as great importance as the benefit which would arise from the universal adoption of the specifications. We bespeak for the new specifications much more general adoption even than the old received.

## Standard Thicknesses and Weights of Cast Iron Pipes

## FOR FIRE-LINES AND OTHER HIGH-PRESSURE SERVICE

Nominal Inside Diam., Inches.	CLASS E. 500 FT. HEAD. 217 LBS. PRESSURE.			CLASS F. 600 FT. HEAD. 260 LBS. PRESSURE.			CLASS G. 700 FT. HEAD. 304 LBS. PRESSURE.			CLASS H. 800 FT. HEAD. 347 LBS. PRESSURE.			Nominal Inside Diam., Inches.
	Thick-ness, Inches.	Weight Per		Thick-ness, Inches.	Weight Per		Thick-ness, Inches.	Weight Per		Thick-ness, Inches.	Weight Per		
		Foot.	Length.		Foot.	Length.		Foot.	Length.		Foot.	Length.	
6	.58	41.7	500	.61	43.3	520	.65	47.1	565	.69	49.6	595	6
8	.66	61.7	740	.71	65.7	790	.75	70.8	850	.80	75.0	900	8
10	.74	86.3	1,035	.80	92.1	1,105	.86	100.9	1,210	.92	106.7	1,280	10
12	.82	113.8	1,365	.89	122.1	1,465	.97	135.4	1,625	1.04	143.8	1,725	12
14	.90	145.0	1,740	.99	157.5	1,890	1.07	174.2	2,090	1.16	186.7	2,240	14
16	.98	179.6	2,155	1.08	195.4	2,345	1.18	219.2	2,620	1.27	232.5	2,790	16
18	1.07	220.4	2,645	1.17	238.4	2,860	1.28	267.1	3,205	1.39	286.7	3,440	18
20	1.15	263.0	3,155	1.27	286.3	3,435	1.39	320.8	3,850	1.51	344.6	4,135	20
24	1.31	359.6	4,315	1.45	392.9	4,715	.....	.....	.....	.....	.....	.....	24
30	1.55	521.7	6,260	1.73	585.4	7,025	.....	.....	.....	.....	.....	.....	30
36	1.80	725.0	8,700	2.02	820.0	9,840	.....	.....	.....	.....	.....	.....	36

The above weights are per length to lay 12 feet, including Standard Sockets; proportionate allowance to be made for any variation. For HIGH PRESSURE PIPE from 6" to 24" inclusive, one class of special castings shall be furnished for Classes E and F pipe, and one class of special castings for Classes G and H pipe. For 30" and 36" pipe, one class of special castings shall be furnished for each class of pipe.

## NEWS OF THE MUNICIPALITIES

**Divers Subjects of General Interest and Their Treatment by City Councils and Officials—Streets, Water Works, Lighting and Sanitary Matters—Police and Fire Items—Government and Finance**

### Roads and Pavements

ALTOONA, PA.—City Engineer Engstrom has arranged to procure the necessary apparatus to test paving bids. Heretofore 50 bricks in every 50,000 have been sent to laboratories in Pittsburg and Philadelphia for examination. Arrangements have been made with the railroad company to attach the rattler to shafting in one of their shops where the noise will not be a nuisance.

BALTIMORE, MD.—Mayor Mahool has let it be known to the heads of municipal departments engaged in street-paving work that from now on he wants all bids for paving asked for on a competitive basis on the lines of the Bruce-Fendall ordinance, under the terms of which various kinds of paving materials were grouped, and a group of materials was specified for each street to be paved. After the bids are opened any one of the materials can be selected, irrespective of whether the lowest bidder on the selected material is the lowest of all the bidders. This is what is known as the alternative form of bidding.

DETROIT, MICH.—Plans for the separation of twelve grade crossings will be made at once by City Engineer McCormick as a result of the conference with the Grade Separation Committee of Council and City Counsel Hally. One of the principal difficulties that will have to be solved arises from the great number of switches and sidetracks within the city limits. Another difficulty is that the subways will have to be made with little headroom, perhaps as low as 12 feet, because the depth of the sewers prevents deep excavation for lowering the streets.

ELIZABETH, N. J.—Mayor P. J. Ryan, accompanied by other city officials forming an automobile party, recently made a tour of inspection of city streets. The conclusion that they came to was that while there was much to be done the conditions of the streets taken altogether compared favorably with streets of other cities of its size. The most important and immediate need is the removal of dirt from the unpaved streets, and the next in importance is converting unpaved streets into paved streets.

PEKIN, ILL.—Three resolutions passed by the new City Council at the recommendation of Mayor Schnellbacker, indicate the determination of the government to control its streets. These resolutions prohibit the railroad company from using one street for general switching purposes, provide for the placing of flagmen at all crossings and compel all railroad companies running through the city to make their grades conform to those of city streets.

SEATTLE, WASH.—Not a single bid was received by the Board of Public Works for the 150 blocks of paving on Queen Anne Hill, the largest single contract for paving ever advertised in Seattle. Some weeks ago bids were opened for the same work. At that time the Barber Asphalt Paving Company was the only bidder. Their bid was considered too high and was accordingly rejected. The Warren Bros. Company expressed a desire to compete for the work. At the last letting a communication was received from Warren Bros. to the effect that their counsel advised them that the contract was illegal, and that Eastern bond buyers would decline to take up the local improvement warrants. It was also stated in the letter that the attorney for the company took the grounds that the bids had not been advertised correctly; that the charter provisions requiring a resolution to create a local improvement district had not been complied with, and that the property owners

in the district are not aware of the precise character of the proposed improvement.

SIoux CITY, IOWA.—A pavement of Australian redwood blocks laid in 1894 in front of a fire house will have to be taken up. The pavement was made of blocks sawed from a section of a tree brought from Australia and exhibited at the World's Columbian Exposition at Chicago in 1893. At the close of the fair the wood was brought to Sioux City and sawed into paving blocks. Although the pavement has had the fault of excessive slipperiness, it seemed as if it would never wear out. It was not until this spring that the blocks began to give way.

TRENTON, N. J.—Property owners on Princeton avenue want a pavement laid with a mixture of broken stone and bitumen, on a concrete base. Thomas J. McGovern, an asphalt paving contractor of the city, argues that he can lay a mixture of asphalt and broken stone without danger of infringement on bitulithic patents as long as he uses asphalt instead of tar in the mixture and does not use the word bitulithic in the specifications. Mr. McGovern further claims that the asphalt and broken stone mixture can be laid at only a slight increase over the cost of ordinary asphalt and that the pavement will be much more durable.

### Sewerage and Sanitation

HAVANA, CUBA.—An agreement has been reached by the Advisory Commission to make a Federal district of the City of Havana, modeled after the government of the District of Columbia. In the scheme adopted, the police, sanitation and public works will be under National control. The expenses of government will be divided between the State and city.

INDIANAPOLIS, IND.—Probably the largest sewer ever projected for Indianapolis, a sewer that would eliminate the problem of Piques Run and make possible the separation of grades at all the street crossings of the Union railway tracks from Vermont street to Kentucky avenue, is proposed in the plans for which the preliminary drawings are now in the office of City Engineer Blaine H. Miller. The cost of this project, which it is designed to make a part of the cost of the largest track elevation project yet proposed for Indianapolis, is estimated to be approximately \$500,000 or \$600,000. The plan calls for twin sewers side by side in the bed of the run, each 16 feet 9 inches in width and 12 feet in height at the mouth of the sewer. Reinforced concrete would be the material used, the bottom would be only slightly concaved and the cross section 402 square feet. The sewerage system of Indianapolis has followed, in important particulars, plans made by Rudolph Hering. His old plan called for a 12-foot circular sewer in the run, which, however, was never built.

PHILADELPHIA, PA.—In excavating to lay a water pipe at the corner of Broad and Chestnut streets the contractor's men struck a sewer and it caved in. The material of the sewer was so poor that it crumbled freely and sewage filled the excavation to the top. A steam pump was put to work, the overflow greatly inconvenienced the pedestrians, not the least among them Mayor Reyburn, on his way to the City Hall. Mayor Reyburn declares that the city officials and contractors must do their work better. He is inclined to blame the Civil Service rules for the employment of incompetent inspectors.



POUGHKEEPSIE, N. Y.—Mayor Sague has received a letter from the State Board of Health urging him to carry out the construction of the proposed sedimentation basin for the water works. It is plainly stated, further, that if the improvements are not carried out at an early date, the provisions of the Public Health Law will be enforced by requiring the city to purify its sewage. The latter plan would require an outlay of at least \$200,000.

ROCHESTER, N. Y.—Fear of lawsuits likely to follow from the establishing of a system of filtration beds for the recently annexed Twenty-first ward have induced City Engineer Fisher to report in favor of pumping the sewage a mile against a head of eight feet and delivering it into the East Side trunk sewer. The original estimate for the pumping system has been reduced by adopting a cheaper grade of sewer pipe and enlarging the receiving tank to such an extent that an engineer working eight hours can handle the pumps.

#### Water Works

BALTIMORE, MD.—The Mount Royal pumping station of the City Water Department supplying water to the high service district has been sinking and is in danger of collapsing. The station supplies about a quarter of the inhabitants of the city with water. For a year or more the cracks have been increasing in width, but it was not until a month ago that officials of the Department began to be alarmed. Building Inspector Preston has expressed the opinion that the concrete supports of the building were not carried down to bed rock and that they are now settling.

BEDFORD, MASS.—At a special town meeting an appropriation of \$50,000 was voted for the construction of a water system. The Water Commissioners, George M. Dimond, Henry G. Lyons and Charles A. Burke, were instructed to proceed at once with the work of installing the system. The vote on the appropriation was 130 to 3.

HARRISBURG, PA.—Council is considering an ordinance to vacate a portion of Conestoga creek so that another well may be sunk there. The new well will be larger than the one now in use near the pumping plant. Two centrifugal pumps will force water from the well to the filter plant, from there it will return by gravity to the pumping station, and thence to the reservoir.

JERSEY CITY, N. J.—Resolutions calling upon the city's law department to prevent the use of the Pennsylvania Railroad Company's right of way for a pipe line of a private water company were passed at a meeting of the Water Board, at the instance of Chief Engineer Van Keuren, who discovered that water pipes were being delivered along the line of the railroad. The Board takes the ground that the right of way can be used for railroad purposes only and not to provide a means for the distribution of water. The Jersey and Suburban Water Company, it is thought, is desirous of competing with the city in the sale of water.

PHILADELPHIA, PA.—Director Stearns has given the following résumé of the present condition of the new water works: The conduit is ready for use. The intake is also ready for use because of the existence of the temporary canal to one of the gates. It can be used when the pipes are ready. Five of the 20,000,000-gallon lifting pumps are in place, a sixth is being put up, and the seventh has not even been contracted for. The sand, gravel and pipe bid has been awarded to Norcross & Edmunds under the conditions governing the old contract. Everything is ready for them to proceed. Twenty filter beds have been completed, and others are partly finished. There are 65 in all.

ST. ALBANS, VT.—A letter complaining of the condition of the drinking water has been sent to the Mayor and

City Council by the St. Albans Clinical Society, and the opinion expressed that the condition of the municipal supply is a menace to the health of the city. The Society recommend that the City Council employ a water works or sanitary engineer to report on conditions and suggest remedies. As a temporary measure the pipes will be flushed. As the algæ were removed from the reservoir last year that is supposed to be in good condition.

SOUTH MILWAUKEE, WIS.—For several years there has been trouble with the water supply taken from the lake, tests having plainly shown evidences of sewage contamination. To remedy the trouble the intake was extended at an expense of \$20,000. In consequence of the discovery of impurities in the water again, a diver was sent down to make an examination. He reports that in many cases the pipes have become disjointed and that whole lengths of pipe have been carried away by shifting sand.

WASHINGTON, D. C.—Since the official announcement of the Commissioners that they mean to abandon all shallow public wells in the District in the interest of public health, a number of protests have been received from persons who use the water from the wells and who strenuously object to their abandonment. In fact, the number of complaints has been so great and the tones of them so earnest it is likely that the Commissioners will grant a public hearing before ordering the wells closed. It is possible that a distinction will be made between shallow and deep wells and that the latter may be kept open.

#### Street Lighting and Electric Power

JACKSONVILLE, FLA.—On June 1 the gas company reduced the price of gas from \$2.00 gross to \$1.50 gross, and from \$1.50 net to \$1.40 net, extending the day of discount five days. This means a gross reduction of 50 cents per thousand cubic feet, and a net reduction of 10 cents per thousand cubic feet the last day of discount to be the 15th of the month, instead of the 10th, as heretofore.

JASPER, MO.—The acetylene town plant at Jasper exploded with a terrific report at 2 A.M. June 3, from some unknown cause. The plant had been in operation two years, was owned by a local company, and cost \$5,000.

NEW YORK, N. Y.—At the present time electrical energy is supplied through 66,000 meters to 2,461,261 incandescent lamps, 32,320 arc lamps and 140,000 horsepower in motors. Additional installations in storage batteries, heating appliances and other devices bring the total use of electricity on Manhattan Island alone to 4,762,218 equivalents of 16 candles. Over 10,000 users of some other kind of power in New York changed to electricity in one year. In one month the gain of incandescent lamps reached a total of nearly 90,000.

ST. PAUL, MINN.—An ordinance now pending before Council provides for the appointment of city inspectors for gas and electric meters. The purpose of the ordinance is to provide a means whereby users of gas and electricity may have their meters inspected by somebody other than an employee of the gas or electric companies.

#### Fire and Police

ALLENTOWN, PA.—Charles West, General Manager of the Consolidated Telephone Companies of Pennsylvania, has invented a device which it is believed will assist in catching firebugs by indicating the line over which false alarms come. The invention is the result of a consideration of recent incendiary fires. The device installed will hereafter register every call to the Fire or Police Department automatically, the time and line being both recorded. Furthermore, the line will stay open until closed by the operator at the exchange, who can hear any conversation carried on.

EVANSVILLE, IND.—Before beginning to clean out a fire cistern a city employee engaged in the work undertook to get a good look at the job by dropping a lighted match through the manhole. An explosion followed, tearing away the entire arch of the reservoir and causing a concussion that could be felt several blocks away. A leaking gas main running through the cistern was the cause.

TROY, N. Y.—According to the report of the Bureau of Fire, there are in service eleven steam fire engines with tenders, five combination chemical and hose wagons, three hook and ladder trucks, two hand hose carts, two fire alarm telegraph wagons and twelve supply wagons. There are 17,050 feet of good hose and 3,800 feet of medium hose in service. During the year the department responded to 334 calls, 166 bell alarms and 168 verbal or telephone calls. The number of volunteer firemen is 1,119. The paid force consists of a Chief Engineer, three Assistant Engineers, two Fire Alarm Superintendents, three linesmen, a Superintendent and assistant of hose depot, eleven steamer engineers, eleven stokers, fifteen drivers, six hosemen, two tillermen, two assistant tillermen, making a total of 61 paid men.

WALCOTT, N. Y.—For several weeks the streets of Walcott have been patrolled by policemen unable to exert their authority effectively. The police justice was obliged to leave town for a few weeks. In the absence of the police justice, a justice of the peace may assume his duties. In this instance both offices were held by the same person,—Mr. Fanning. During this official's absence the police could arrest and lodge their prisoners in the lock-up, but they could not be arraigned for sentence, could not be released, nor could they be held indefinitely.

YOUNGSTOWN, O.—The Board of Public Service has decided to refuse to grant to municipal contractors the use of fire hydrants. This action is due to injury that has been done to hydrants, some of them having been so damaged as to render them unfit for use. The State Board of Underwriters, too, has protested against the commercial uses of fire hydrants. Chairman Heinselman, of the Board, states that any contractor who attempts to use a hydrant will be prosecuted.

#### Government and Finance

DUNKIRK, N. Y.—The assessed valuation of special franchises in the city for the year 1907, as computed by the State Board of Tax Commissioners and sent to City Clerk L. N. Murray, shows an increase of \$163,317 over 1906. For this year the valuation has been fixed at \$311,325. The assessment on every special franchise on the local list has been raised.

HARRISBURG, PA.—The official valuation of the city is \$41,096,120. Land and improvement values have been separated for the first time and 51 per cent. of the total valuation is in land.

KANSAS CITY, Mo.—The Streets, Alleys and Grades Committee of the Upper House of the Council broke its record recently, although it has always enjoyed the reputation of being the busiest institution connected with the City Council. On the occasion referred to 92 documents were reported to the Upper House. All were measures of public improvement and all were investigated by the Committee. Ninety of the 92 documents, according to Alderman C. A. Youvey, Chairman of the Committee, should never have been put before the Council, but should be disposed of by an Administrative Board.

NEW YORK, N. Y.—Comptroller Metz will offer \$29,000,000 worth of corporate stock for sale, June 28. The securities will be coupon instead of registered bonds, as they will be more attractive to many local and to all foreign investors. This issue will come within \$2,000,000 of exhausting the present borrowing capacity of the city,

but after July 1, when the tax levy for the year goes into effect, about \$45,000,000 will be added to the margin. An estimate of the value of real estate owned by the city, according to recent investigation, on the usual basis of assessable valuation, foots up to \$520,000,000. The city's net bonded indebtedness is \$470,000,000.

PADUCAH, KY.—In accordance with the recommendation of the Finance Committee, the Board of Aldermen has decided that hereafter a semi-annual inventory of city property shall be taken.

PITTSBURG, PA.—Governor Edwin S. Stuart at Harrisburg recently listened to the petition of officials of Pittsburgh, Allegheny, McKeesport, Beaver Falls, and ten boroughs of Allegheny County, to the effect that the State should annul the charter of the Philadelphia Company. One hundred and eight citizens composed the party, which was in charge of H. D. M. English, President of the Pittsburgh Chamber of Commerce. Mayor George W. Guthrie, the principal speaker, stated that the object of the petition was to seek the protection of the law of the State from powers claimed under grants from the State, which are believed to be illegal.

#### Refuse Collection and Disposal

ARDMORE, I.T.—Mayor Dick will issue a "clean-up" proclamation as soon as the rainy weather is over. What is more, when the city has been put in a sanitary condition, it is proposed to keep it so. A special sanitary officer will be appointed, whose duty it will be to see that alleys, streets, and back yards are kept clean. For this work the officer will be paid at the rate of 35 cents a week for each building in the business district and \$1.00 a month for each residence. A trash box will be placed at every building in town and will be called for daily.

BROOKLYN, N. Y.—There are 78 miles of macadam streets in the Borough of Brooklyn that have not been cleaned this year, according to estimates of President Bird S. Coler, in a letter to the Board of Aldermen. Hitherto it has been the practice to use money appropriated for Labor, Maintenance and Supplies in the Bureau of Highways for this purpose. The charter provides that the Department of Street Cleaning shall do this work. The sum of \$116,000 is needed for the purpose, and would allow for cleaning 80 miles of macadam ten times a year, the cost per mile for each cleaning being \$145. Formerly the work was done twice a year.

NEW YORK, N. Y.—Mayor McClellan has asked the Board of Estimate for \$10,000 to be used for the expenses of a commission of three engineers whom he will appoint "to investigate and report at an early date on an improved system of street cleaning and a better method of disposing of the city's waste." He says in his letter: "I am convinced that with the constant demands on the time of the Street Cleaning Commissioner it is impossible for him or any other city official to devote the necessary time to studying the advances made in solving the problem in the other great cities of the world." The Mayor announces to the Board that if it grants the appropriation he intends to write H. de B. Parsons, Samuel Whinery and Rudolph Hering to take up the work.

ROCHESTER, N. Y.—Mayor Cutler and other city officials recently inspected the new plant of the Genesee Reduction Company just completed. The plant consists of twelve 15-ton digesters in which the garbage will be cooked for a period of six or eight hours, so that the total capacity of the plant is 240 tons daily. The solid residue is put in a hydraulic press and subjected to a pressure of 125 pounds to the square inch. The liquid material is drawn off, chemically treated and the fats and oils recovered. At this inspection, some garbage was put through the process without odor or offensiveness.



### Parks and City Beauty

INDIANAPOLIS, IND.—The Board of School Commissioners, through Calvin Kendall, Superintendent of Schools, and the Public Recreation Committee of the Children's Aid Society, Harry Tutewiler, Chairman, has agreed on a plan whereby effort may be made to raise funds with which to establish and maintain public playgrounds and free public baths in Indianapolis. Details of the plan are now being worked out, and the playgrounds and free baths probably will be established for use early this summer.

NEW BEDFORD, MASS.—After two years' efforts the Park Board has secured the use of a triangular lot owned by the New England Cotton Yarn Company. The city will clear up the underbrush and place seats in the lot.

NYACK, N.Y.—Nearly a hundred citizens met in the Exposition Hall to consider the advisability of issuing bonds to improve the appearance of the village. The idea is to lay walks and concrete curbing on the principal streets, have the streets graded, and establish a system of drainage for surface water. It was resolved to request the Trustees of the Village to employ an engineer to prepare maps and profiles of the proposed improvements. A bond issue of \$100,000 is contemplated, to which will be added an equal amount from property owners affected.

PORTLAND, ORE.—Marquam Gulch is likely to become a city park, if the plans of some property owners near by materialize. The gulch has become the home of a number of unsightly shacks, tenanted by a noisy element, that disturbs the dwellers near by, and serves to depreciate property values on both sides of the ravine. The remedy proposed by Fritz C. Strobel, a property owner at the head of Sixth street, is to form a stock company to purchase a tract lying west of Fourth street, between Sheridan on the north and the south side of the gulch, and present it to the city for a park.

YORK, PA.—The Park Committee of the Municipal League, after considering that section of the report of Frederick Law Olmsted pertaining to parks and public playgrounds, has decided that \$100,000 will be needed to carry out the plans contemplated. These include the purchase of the Farquhar Park addition, the beautification of the existing parks, and the establishment of public playgrounds throughout the city.

### Rapid Transit

LINCOLN, NEB.—About July 1 the Union Pacific Railway will put in service twelve new gasoline motor cars. These will be operated in the place of small and mixed trains and will improve the transit facilities of towns on branch lines. These cars were designed by W. R. McKeen, Jr., superintendent of motive power and machinery. Numerous delegations from all over the country have visited the shops where these cars have been building. Improvements have been shown in every car turned out.

NEW HAVEN, CONN.—Governor Woodruff in a message to the Legislature, after announcing that he was as heartily in favor of gridironing the State with street railways as any member of the Legislature, stated that in his opinion it was unfair to the business of the State and interests of the public to permit promoters to include in a street railway charter the power to exercise the right of eminent domain for control of ponds, lakes and streams, with the intent not only to operate street railways but of doing a light and power business.

MEDINA, N. Y.—The construction of the Buffalo, Lockport and Rochester Railway Company through the village has been blocked by the officials. When negotiations to go through the village were broken off, the attorney was dispatched for an injunction. In the meantime, the con-

tractors put a gang of men at work at night to complete the road. A midnight fire alarm was turned in and the firemen drove the workmen from their work with streams from their hose, and held the field. The dispute arose over questions of grade and forms of rails to be used.

NEW YORK, N. Y.—One of the foremost engineers of the city, who is conversant with the conditions under which the tunnels are being built, estimates the total cost of the tunnels at about \$214,000,000, as follows: Hudson companies, \$100,000,000; Pennsylvania Railroad, \$90,000,000; Interborough Subway, \$12,000,000; Belmont's Steinway Tunnel, \$12,000,000. These estimates are approximate and make allowance for the construction of the power plants and the installation of the necessary equipment. The figures are not for building the portions of the roads under the river only, but for the whole work.

SYRACUSE, N. Y.—Electric cars have been run on the West Shore Road on regular schedule and a definite day will soon be set for opening the electric service to the public. Power to run the cars is received from the power house of the Utica street railway system, which has a contract with the Hudson River Power Company for future service. At Syracuse power will ultimately come from Niagara Falls. The fare from Utica to Syracuse, about 40 miles, will be \$1.40 a round trip.

### Miscellaneous

JERSEY CITY, N. J.—The Board of Directors of the Hudson County District S. P. C. A. has, on recommendation of President George M. McCarthy, decided to install a number of horse drinking fountains. The fountains will be of use only to drivers who carry with them their own pails. Self-closing faucets to prevent waste of water will be used. The society is notifying horse owners of the danger in allowing their animals to drink from public watering troughs, which are blamed for the spread of glanders, farcy, mange and pulmonary troubles.

MASON CITY, IA.—Mayor McConlogue has signed an ordinance making it a misdemeanor, punishable by a fine of from \$3 to \$100, for a person to drink beer in alleys, outbuildings, public buildings, or other places in the city, also for drinking, treating or exchanging drinks. The Mayor has looked up the law and says the city has the right to pass such an ordinance and that the law will be rigidly enforced.

NEW ALBANY, IND.—A peculiar method of exempting a new manufacturing plant from taxation was that adopted by the New Albany Common Council. The company exempted proposes to employ 100 operatives and will have a payroll of more than \$50,000. The procedure was to "disannex" the territory on which to build the plant.

NEW YORK, N. Y.—A franchise will be granted to the Atlantic Telephone Company, on terms and conditions to be fixed by the Board of Estimates. The franchise, which has been pending two years, was opposed by the New York and New Jersey Telephone Company, who wanted a perpetual franchise in return for reduction in rates and compensation for the franchise. At the recent hearing former Comptroller Edward M. Grout, counsel for the New York and New Jersey Company, asked unsuccessfully for delay on the ground that the Bureau of Franchises had been ordered to report on the matter and had not yet done so.

PITTSBURG, PA.—Captain W. B. Rogers, who has spent several months in Europe studying river improvements, will present to the Chamber of Commerce the results of his investigations. He believes that in order to secure Pittsburg from floods it will be necessary to build walls or dykes along both banks of the river. These walls should give the current a uniform width, and basins should extend from it, in order to afford protection for vessels.

## THE WEEK'S CONTRACT NEWS

Relating to Municipal and Public Work—Street Improvements—Paving, Road Making, Cleaning and Sprinkling—Sewerage, Water Supply and Public Lighting—Fire Equipment and Supplies—Buildings, Bridges and Street Railways—Sanitation, Garbage and Waste Disposal—Police, Parks and Miscellaneous—Proposals and Awards

To be of value this matter must be printed in the number immediately following its receipt, which makes it impossible for us to verify it all. Our sources of information are believed to be reliable, but we can not guarantee the correctness of all items. Parties in charge of proposed work are requested to send us information concerning it as early as possible; also corrections of any errors discovered.

## BIDS ASKED FOR

STATE	CITY	RECEIVED UNTIL	NATURE OF WORK	ADDRESS INQUIRIES TO
<b>Street Improvements</b>				
New York	Brooklyn	June 20, 3 P.M.	Paving walks in Sunset Park, asphalt tiles....	Park Board, Prospect Park.
New York	Brooklyn	June 20, 3 P.M.	Repaving walks with asphalt tiles, Prospect Park; also Kings Park, Queens Borough....	Park Board.
Iowa	Muscatine	June 20, 7:30 P.M.	Laying concrete walks, year end Mar. 15, '08.	James J. Ryan, City Engineer.
New Jersey	Plainfield	June 20, 8 P.M.	Macadamizing certain streets....	Andrew J. Gavett, City Surveyor.
Iowa	Waterloo	June 20	Paving 16 blocks with asphalt, 3 with brick.	C. T. Wilson, City Engineer.
Ohio	Newark	June 20	Paving 3,430 yds. brick on 2-in. sand and 2,190 yds. brick, with tar filler....	C. H. Wells, City Engineer.
Utah	Salt Lake City	June 20	Constructing sidewalks in certain streets....	J. F. Leonard, Pres. Bd. Pub. Wks.
Illinois	Chicago	June 21, 10:15 A.M.	Constructing cement walks; 33 contracts....	John A. May, Secy. Bd. Local Imp't.
New York	Buffalo	June 21, 11 A.M.	Paving stone, cross walks, curbing sand, gravel and crushed stone for Street repairs to June 30, 1908....	F. G. Ward, Com'r Pub. Works.
Missouri	St. Louis	June 21, noon	Constructing sidewalks, etc., various streets.	W. B. Dryden, Secy. Bd. Pub. Imp't.
Pennsylvania	Harrisburg	June 21, noon	Paving and curbing 3 alleys and 6 streets....	Jos. W. Hunter, Harrisburg, Com'r.
Ohio	Cincinnati	June 21, noon	Improving Pike and Faust Ave....	Fred. Driehs, Clk. Co. Com'rs.
Illinois	McLeansboro	June 21, 1 P.M.	Paving 44,184 sq. yds. vit. brick on 5-in. cement, and 2-in. sand base, 30,370 ft. curb, grading, etc....	G. W. Hogan, Pres. Bd. Local Imp't.
Ohio	Youngstown	June 21	Paving 3 sts; grading 2 sts; sewer 3 sts....	F. M. Lillie, City Engineer.
Pennsylvania	Lancaster	June 21	Constructing 17,075 ft. road, two twps....	Jos. W. Hunter, Harrisburg, Com'r.
Ohio	Delaware	June 21	Macadamizing Channing Street....	E. D. King, Clk. Bd. Pub. Service.
Ohio	Lowellville	June 21	Furnishing natural and artificial stone for walks in 1907....	F. C. Breneman, Village Clerk.
Ohio	Cleveland	June 22, 11 A.M.	Completing Depot Road. Imp't., etc....	A. B. Lea, County Engineer.
West Virginia	Princeton	June 22	Street improvements, to cost \$23,000....	Hugh G. Woods, Mayor.
Ontario	Norwood	June 22	Constructing 35,000 ft. concrete walks....	J. Calder, City Clerk.
Indiana	Danville	June 24, 10 A.M.	Constructing 5,343 ft. gravel road; also 12,700 ft. highway in Franklin township....	David D. Mills, County Auditor.
New York	Elmira	June 24, 11 A.M.	Vit. block and asphalt, paving on concrete and 7,800 yds.; 3,700 ft. curbing....	S. A. Warner, City Clerk.
Ohio	Lakewood	June 24, 11 A.M.	Laying delinquent walks, Summitt Ave....	Wm. H. Evers, Eng. Co., Cleveland.
New York	Syracuse	June 24, 1:30 P.M.	Furnishing material and laying stone, cement, asphalt or brick walks, 9 streets....	Henry C. Allen, City Engineer.
Alabama	Greenville	June 24	Brick paving, 7,000 yds.; macadam, 8,000 yds....	Arthur Few, Atlanta, Engr.
Ohio	Toledo	June 24	Paving Ohio St., 48 ft. wide, any material....	Oren Dunham, City Clerk.
Washington	Olympia	June 24	Grading and macadam State Road No. 1....	J. M. Snow, Secy. Highway Com'n.
Wisconsin	Milwaukee	June 25, 10:30 A.M.	Grading and stone paving alleys in 8 Wards; curbing and stone sidewalks on streets, 3 Wards....	Chas. J. Poetsch, Com. Pub. Works
Texas	Marshall	June 25, 4 P.M.	Paving sts., Improvement Dists. Nos. 1, 2 & 3....	H. S. Rice, City Secretary.
Pennsylvania	Reynoldsville	June 25, 8 P.M.	Grading, curbing and paving Jackson St....	Clement W. Flynn, Sec'y T'n Coun.
New Jersey	Camden	June 25, 8 P.M.	Paving 3 sts., asphalt, block, etc., on concrete....	L. E. Farnham, City Engineer.
Alabama	Decatur	June 25	Cement walks, vit. brick crossings, etc., 50 roads....	H. A. Sheggs, Mayor.
Ohio	Pomeroy	June 25	Laying stone, etc., Storrey's Run road....	A. V. Vale, County Auditor.
Wisconsin	Milwaukee	June 26, 10:30 A.M.	Grading and macadamizing, etc., 9 streets; cement walk and comb. curb and gutter, 11 streets....	Chas. J. Poetsch, Com'r Pub. Wks.
Virginia	Norfolk	June 26, noon	Furnishing and constructing asphalt plant....	W. T. Brooke, City Engineer.
Indiana	Nappanee	June 26	Paving Main and Market Sts. with brick....	John W. Brown, Town Clerk.
New York	Brooklyn	June 26	Laying 1,955 yds. asphalt, 22,340 ft. cement walks, 7,850 ft. curb in concrete, etc....	Bird S. Coler, Boro. Pres.
Ohio	Batavia	June 26	Laying artificial stone sidewalks....	G. H. Kain, Village Clerk.
Ohio	Mt. Vernon	June 26	Paving E. High St.; 11,000 yds. exc., 21,000 yds. brick, 19,000 yds. asphalt, 19,000 yds. macadam, 8,500 ft. straight, 1,840 ft. header curb....	E. M. Parmentar, Clk. Bd. Pub. Ser
Wisconsin	Milwaukee	June 27, 10:30 A.M.	Replacing wooden sidewalks with cement, 6 Wards; paving with brick on concrete, 2 alleys, 2 sts.; fur. \$7,000 worth of crushed stone and \$500 of stone screenings....	Chas. J. Poetsch, Com'r Pub. Works
Wisconsin	Janesville	June 27, 2 P.M.	Laying 2,932 yds. macadam, 1,391 ft. comb. curb, etc....	C. V. Kerch, City Engineer.
Wisconsin	Janesville	June 27, 2 P.M.	Macadamizing 2,932 sq. yds.; comb. curb and gutter, 391 lin. ft. Academy St....	C. V. Kerch, City Engineer.
New York	Geneva	June 27, 7:30 P.M.	Paving 14,000 yds. brick and asphalt, 5,000 yds. exc., 10,200 ft. 4-in. stone curb, 10,200 ft. 3-in. drain tile, 2,000 ft. storm water sewer tile, 25 catch-basins....	C. T. Church, City Engineer.
Maryland	Towson	June 27	Macadamizing 2 1/2 miles Oregon and Falls rds.	E. S. Rosley, Secy. Highway Com.
Wisconsin	Milwaukee	June 28, 10:30 A.M.	Replacing wooden sidewalks with cement, 6 Wards; grading and macadam., 8 sts.; cement sidewalks, comb. curb and gutter, 6 streets....	Charles J. Poetsch, Com'r Pub. Wks
Pennsylvania	Harrisburg	June 28	Building 10,150 ft. road Washington twp....	Jos. W. Hunter, State H'wy Com'r
New York	Bronxville	June 28	Grading, paving, etc., 3 streets....	Geo. H. Rogers, Tuckahoe, Eng'r.
Wisconsin	Milwaukee	June 29, 10:30 A.M.	Replacing wooden walks with cement, 5 Wds.	Chas. J. Poetsch, Com. Pub. Works
Iowa	Des Moines	June 29, 11 A.M.	Setting 3,962 ft. Portland cement curb, 4 sts.; 1,780 ft. combined curb and gutter, 1 st....	W. W. Wise, Board Pub. Works.
District of Columbia	Washington	June 29, noon	Grading 58,000 cu. yds. sts. and avenues....	J. J. Morrow, Engr. Com'r.
District of Columbia	Washington	June 29, noon	Grading and regulating substitute sts. and avenues....	H. B. F. Macfarland, Commissioner.
Washington	Fort Warden	June 29	Laying brick on concrete, etc., Kinnickinniek Ave.; constructing roads, gutters and catch-basins....	Chas. C. Burt, O. M. U. S. A.
Indiana	Campbell	July 1, 10:30 A.M.	Constructing 4 gravel roads; cost, \$24,255....	Warwick Co. Comrs., Boonville.
Florida	Fort Dade	July 1, 8 P.M.	Constructing brick roads and con. walks....	Capt. M. H. Barry, Q. M.
Indiana	Greensburg	July 1	Macadam road, 900 ft. long, Sandcreek twp.	Frank E. Ryan, County Auditor.
Kentucky	Greensburg	July 1	Constructing 2 pikes, 11 miles long....	Green Co. Turnpike Co.
Kansas	Fort Riley	July 1	Constructing 15,000 sq. ft. concrete sidewalks....	Capt. W. M. Whitman, O. M.
New York	Fort Niagara	July 1	Constructing concrete walks in post....	Constructing Quartermaster.
Ohio	Bryan	July 2	Constructing State highway....	Sam Huston, Columbus, Com'r.



## Street Improvements—Continued.

Iowa.....	Clarion.....	July 2.....	Paving 16,780 yds.; curb, 9,085 ft., grade 6,200 yards.	G. G. Sloan, Boro. Clerk.
Tennessee.....	Memphis.....	July 2.....	Furnishing paving blocks, two sizes granite, limestone or Ark. bluestone macadam, cementing gravel; also furn., laying, etc., granite curb, etc., and granolithic walks, etc.	Ennis M. Douglas, City Clerk. Sam Huston, Columbus, Com'r. E. E. Ellsworth, Recorder. Fred Dreihis, Clk. Co. Comrs.
Ohio.....	Mansfield.....	July 3.....	Constructing State highway.	C. B. Bragley, Secy. Bd. Pub. Wks.
Tennessee.....	Johnson City.....	July 4, noon.....	Paving 6 sts., any material, curb, sewers, etc.	James Rutherford, Engineer.
Ohio.....	Cincinnati.....	July 5, noon.....	Improving Ohio pike, Anderson township.	
Washington.....	Seattle.....	July 6.....	Regrading 3d Ave., Denny Hill, cost, \$700,000.	
Pennsylvania.....	Clarion.....	July 8, 7:30 P.M.....	Paving 16,780 sq. yds., grading 6,200 cu. yds., curbing, 9,085 lin. ft., Wood and Main Streets.	

## Water Supply

New York.....	Buffalo.....	June 20, 11 A.M.....	Automatic weighing and recording machine at Water Works Pumping Station.	F. G. Ward, Comr. Pub. Works. A. C. Schultz, City Engineer.
Ohio.....	Sandusky.....	June 20.....	Mechanical filtration plant, 6,000,000 gals.	
New York.....	Mineola.....	June 21, 10 A.M.....	Constructing water works, inc. 336 tons c. i. pipe, 7 tons special castings, gasoline engine, triplex pump, power house and 100,000-gal. tank on 125-ft. steel tower.	Walter E. Sexton, Phila., Pa., Engr.
Ohio.....	Medina.....	June 21, noon.....	Furnishing and laying 24,482 ft. 4-12-in. c. i. pipe, 1,360 ft. vit. pipe, concrete well and dam.	W. G. Smith, Supt. Water Works.
Missouri.....	Kansas City.....	June 21, 2 P.M.....	Furnishing 385 hub endgate valves, 4-16 in.; 8 double gate valves, 36-48 in.; 5 horizontal swing check valves, 16-30 in., f. o. b. cars, K. C.	Everett Elliott, Secy. Bd. Pub. Wks. W. G. Kirchoffer, Madison, Engr. Geo. C. Morgan, Chicago, Ill., Engr.
Wisconsin.....	East Troy.....	June 21, 7:30 P.M.....	Constructing water works plant.	E. G. Bradbury, Columbus, Engr.
Michigan.....	Wayland.....	June 21.....	Constructing water works; cost, \$15,000.	Geo. R. Stearns, Dir. Pub. Works.
Ohio.....	Medina.....	June 21.....	Furnishing and laying c. i. pipe; also for 2 complete pumping units, each of 250,000 gal. pump, with engine, boiler, etc.	P. R. Wrape, Pres. Water Comrs.
Pennsylvania.....	Philadelphia.....	June 24, noon.....	Repairing pumps, purchasing new ones, machinery, etc., \$6,000,000 bonds auth'd.	Wm. Barneck, City Engineer.
New York.....	Carthage.....	June 24, noon.....	Laying 14½ miles, 12-in. conduit line, intake reservoir, dam and gate house.	W. G. Kirchoffer, Madison, Eng'r.
Wisconsin.....	West Bend.....	June 24, 2 P.M.....	Constructing waterworks, inc. 256 tons 4-10-in. c. i. pipe, hydrants, valves, laying 2,732 ft. pipe, steel tank and tower, 50 h.p. gas engine and producer, 500-gal. deep-well triplex pump, 60,000-gal. steel tank and tower, and power house.	Wm. H. Mason, Village Clerk.
Minnesota.....	Albert Lee.....	June 24, 7:30 P.M.....	Erecting hydro-electric power plant and dam on Paw Paw River; also water works, improvement.	Geo. K. Rose, Ch'man Com. on Water Supply.
Michigan.....	Paw Paw.....	June 25, 1 P.M.....	Furnishing and laying 37 miles, 6 to 20-in. pipes, hydrants, etc.	B. J. McGory, Clk. Bd. Pub. Serv.
New Jersey.....	Passaic.....	June 28, 8 P.M.....	Constructing 6,000,000-gal. mechanical filtration plant, bidders to furnish plans, etc.; cost, \$75,000.	D. E. Burke, Supt. Waterworks Capt. J. S. Winn, Quartermaster. E. A. Fisher, Rochester, Con. Engr. Wm. Paterson, Constr. Q. M. W. V. O'Connor, City Auditor. W. H. Cochran, Pres. Con. L. & I. Co.
Ohio.....	Sandusky.....	June 29.....	Sale of Compound Condensing crank and fly-wheel pumping engine, 7,500,000 gals.; never used.	Iykken & Robinson, Grand Forks, Engineers.
Colorado.....	Pueblo.....	June 29.....	Constructing distributing system at Bar'ks.	Jenson & McLaughlin, Logan, Engr.
Idaho.....	Boise.....	July 1, 11 A.M.....	Concrete lining for distributing reservoir.	Board of Public Works.
New York.....	Olean.....	July 1, noon.....	Installing filtration plant at post.	E. C. Ericson, Vermillion.
New Jersey.....	Fort Hancock.....	July 1, noon.....	Laying water main on Norman Avenue.	Hiram Phillips, St. Louis, Con. Engr.
North Dakota.....	Grand Forks.....	July 1, 4 P.M.....	Constructing \$100,000 reservoir.	Ira W. Sylvester, Alexandria, Consulting Engineer.
Colorado.....	Del Norte.....	July 1.....	Constructing water works, inc. stand-pipe 18 x 75 ft.; 95 ft. steel tower, 60,000-gal. tank, foundations, c. i. pipe and specials, water gates, hydrants, and water mains.	M. J. Desmond, Clk. Bd. Trus.
North Dakota.....	Harvey.....	July 1.....	Building reservoir for irrigation purposes.	
Utah.....	Hatchtown.....	July 2.....	Sinking well, furnishing pipes, machinery, etc. to deliver into reservoir 1,500,000 gals.	
Michigan.....	Owosso.....	July 5, 10 A.M.....	Equipping well, State Experimental Farm.	
South Dakota.....	Highmore.....	July 8.....	Complete water and light plant.	
Missouri.....	Jackson.....	July 9, 7:30 P.M.....	Constructing waterworks system.	
Louisiana.....	Eunice.....	July 15, 6 P.M.....	Competitive plans and specifications for constructing filtration plant.	
California.....	Sacramento.....	August 19, 8 P.M.....		

## Sewerage

New York.....	Amsterdam.....	June 19.....	Laying 30- and 24-in. storm sewer.	A. T. Young, Sec'y Sewer Comrs.
Illinois.....	Chicago.....	June 20, 10:15 A.M.....	Constructing sewers, 26 contracts; drains, 3.	John A. May, Secy. Bd. Local Imp't.
Utah.....	Salt Lake City.....	June 20, 11 A.M.....	Laying pipe sewers in Ext. Nos. 178, 180, 182.	L. F. Kelsey, City Engineer.
Ohio.....	Cleveland.....	June 20, noon.....	Constructing sewers in number streets.	A. R. Callow, Secy. Bd. Pub. Service.
District of Columbia.....	Washington.....	June 20, noon.....	Constructing sewer.	H. B. F. Macfarland, Comm'r.
Ohio.....	Salem.....	June 20, noon.....	Constructing trunk line sewer.	Board of Public Service.
Minnesota.....	St. Paul.....	June 20, 2 P.M.....	Constructing sewers, portions 7 streets.	R. L. Gorman, Clk. Bd. Pub. Works.
New York.....	Fort Edward.....	June 20, 8 P.M.....	Constructing sewerage system.	James M. Murray, Village Clerk.
New Jersey.....	Plainfield.....	June 20, 8 P.M.....	Building storm sewers, inc. 900 ft. 36 x 20-in. concrete sewer, 1,553 ft. 36-in. sewer, etc.	Andrew J. Gavett, City Surveyor.
Michigan.....	Hudson.....	June 20.....	Constructing Third Ward sewer.	Fred P. George, City Clerk.
Ohio.....	Youngstown.....	June 21, noon.....	River view dist. sewer; also in 2 sts., etc.	F. M. Lillie, City Engineer.
Massachusetts.....	Taunton.....	June 21.....	Laying 2,700 ft. double-ring brick sewer.	Wm. Granfield, Chm. Sewer Comrs.
Ohio.....	Delphos.....	June 21.....	Constructing portion of sewerage system.	E. S. Peters, Village Clerk.
Ohio.....	Canton.....	June 24, noon.....	Laying 9,070 ft. 4-24-in. vit. pipe, 3 streets.	B. F. Faust, Clk. Bd. Pub. Service.
Ohio.....	Youngstown.....	June 24, noon.....	Constructing sewers portions 4 streets.	W. H. McMillin, Clk. Bd. Pub. Serv.
North Carolina.....	Oxford.....	June 24, noon.....	Constructing sanitary system, inc. 8 miles terra cotta pipe sewers, manholes, etc.	A. A. Chapman, Chm. Town Comrs.
Illinois.....	Lincoln.....	June 24, 2 P.M.....	Exc. and laying tile drains, Dist. No. 1.	Humphrey & Anderson.
Virginia.....	Portsmouth.....	June 27, 8 P.M.....	Building discharge pipe line, 5th Ward sewer.	Bascom Sykes, City Engineer.
New York.....	Buffalo.....	June 27.....	Laying 10-15-in. tile sewer, 30 in., brick, 3 streets.	F. G. Ward, Com'r Pub. Works.
Massachusetts.....	Boston.....	June 28, 2:30 P.M.....	Constructing in rock and earth trench part Sec. 82, ext. high level sewer, S. Met. sys'm.	Wm. M. Brown, Sewer Engineer.
Ohio.....	Lebanon.....	July 1, noon.....	Building 2 vit. pipe sewers, 3,418 ft. long, 10.9 ft. deep and 6.400 ft. long, 10.3 ft. d.p.	A. M. Bower, Civil Engineer.
Connecticut.....	Norwalk.....	July 1, noon.....	Laying 12,638 ft. 10-30-in. stoneware pipe sewer, 450 cu. yds. rock exc., 75 manholes, 414 Y's, 6-in., etc.	Clarence Buttery, Chm. Sewers
Illinois.....	River Forest (Chic. P.O.).....	July 1, 8 P.M.....	Constructing sewer in Chicago Avenue.	F. B. Klock, Pres. Bd. Local Imp't.
South Dakota.....	Pierre.....	July 1, 8 P.M.....	Furnishing and laying 3 miles 8-27-in. vit. clay or cement pipe, 1,000 ft. concrete sewer, 5½ ft. x 3½ ft.; 240 ft. 54-in. concrete sewer, etc.	Edward Mather, City Engineer.
Indiana.....	Columbus.....	July 1.....	Laying 0.848 ft. main and lateral sewer.	Wm. H. Rights, City Engineer.
South Dakota.....	Ashton.....	July 1.....	Constructing a sewerage system.	W. H. Olson, Auditor.

## Sewerage—Continued.

Tennessee.....	Johnson City.....	July 4, noon.....	Laying 5, 800 ft. 8 in. lateral sewers, 5,000 ft. trunk sewer, tile or concrete, etc., 6 streets.	E. E. Ellsworth, Recorder.
Pennsylvania.....	Harrisburg.....	July 5, 2:30 P.M.....	Constructing reinforced concrete sewer, etc.	D. E. Tracy, Sec'y Bd. Pub. Works.
Minnesota.....	Elbow Lake.....	July 8.....	Constructing sewers and a septic tank.....	Loweth & Wolff, St. Paul, Engrs.
South Dakota.....	Vermillion.....	July 8.....	Building sewer system at Normal School.....	Secretary.
Pennsylvania.....	Cresson.....	July 10.....	Proposed sewers, to cost \$9,000.....	Fred W. Hamburger, Ebensburg.
South Dakota.....	Brookings.....	July 15.....	Constructing sewer system: 60,698 ft. 24-8-in. pipe, septic tank and 3 filter beds....	F. M. Cappellen, Minneapolis, Minn.

Ohio.....	Piqua.....	August 1.....	Quantity of 24- and 34-in. sewer pipe.....	W. B. Mitchell, Clk. Bd. Pub. Ser.
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## Public Buildings

Illinois.....	Fort Sheridan.....	June 20, noon.....	Remodeling messhall into post exchange and gym., inc. heating and electric system, etc.	Capt. Wm. Weigel, Constr. Q. M.
Ohio.....	Cleveland.....	June 20, noon.....	Installing complete plumbing, City Hosp.....	A. R. Callow, Sec'y Bd. Pub. Serv.
Michigan.....	Morenci.....	June 20, noon.....	Erecting school.....	Edwyn A. Bond, Lansing, Arch.
New Jersey.....	Irvington.....	June 20, 8 P.M.....	Erecting addition school; also heating, etc.....	William Moll, Architect.
New Jersey.....	Bayonne.....	June 20, 8:30 P.M.....	Constructing public school No. 9.....	Board of Education.
Florida.....	Port Dade.....	June 20.....	Erecting, wiring, etc., 5 sets of quarters.....	Capt. M. H. Barry, Q. M., U. S. A.
Louisiana.....	Slidell.....	June 20.....	Erecting high school; cost, \$7,000 or \$8,000.....	And. J. Bryan, New Orleans, La.
Iowa.....	Burlington.....	June 20.....	Erecting 2-story school.....	Wm. W. Turpen, Sec'y Sch. Bd.
Ohio.....	West Salem.....	June 20.....	Erecting 2-story brick and sand-stone school.	N. A. Mantz, Akron, Arch.
Massachusetts.....	Newton Highlands.....	June 20.....	Installing plumbing in new school.....	Coolidge & Carlson, Boston, Archs.
Indiana.....	Monticello.....	June 21, noon.....	Constructing Poor Asylum for County.....	White County Commissioners.
Ohio.....	Columbus.....	June 21.....	Plumbing, repairs, etc., Co. Court House.....	John Scott, Clk., Bd. Co. Com'rs.
New York.....	Troy.....	June 21.....	Erecting new fire house.....	City Engineers.
New York.....	New York.....	June 21.....	Alterations, etc.; three armories.....	Geo. B. McClellan, Chm. Com.
Ohio.....	Junction City.....	June 21.....	Erecting school.....	Frank L. Packard, Columbus, Arch.
Massachusetts.....	Medford.....	June 22.....	Altering and repairing Hervey school.....	Clifford M. Brewer, Mayor.
Ohio.....	South Charleston.....	June 22.....	Erecting school.....	Frank A. Packard, Columbus, Arch.
Indiana.....	Tipton.....	June 22.....	Plumbing, wiring, etc., high school.....	J. T. Johnson & Co., Archs.
New York.....	New York.....	June 24, 11 A.M.....	Alterations, heating, etc., 26 school bldgs.....	C. B. J. Snyder, Supt. Sch. Bldgs.
Louisiana.....	Whitecastle.....	June 24.....	Erecting a high school.....	Andrew J. Bryan, New Orleans.
Michigan.....	Adrian.....	June 25, noon.....	Erecting new school building.....	W. Stearns, Secretary Bd. Education.
Michigan.....	Charlotte.....	June 25, noon.....	Remodeling Co. jail; also steel work.....	W. W. Stine, Chm. Bldg. Com.
Indiana.....	Indianapolis.....	June 25.....	Heating apparatus for \$40,000 school.....	John E. Cleland, Bd. Educ.
Minnesota.....	Hastings.....	June 25.....	Erecting a county jail.....	P. A. Hoffman, County Auditor.
North Dakota.....	Rugby.....	June 25.....	Erecting 2-story and base, brick school.....	Chas. N. Biorgh, Architect.
Tennessee.....	Nashville.....	June 26.....	Erecting Criminal Court and jail bldg.....	Wheeler, Runge & Dickey.
New York.....	New York.....	June 27, 3 P.M.....	Installing electric equipment, elevators, lifts, book conveyors and pneumatic tubes, N. Y. Public Library, Fifth Ave. and 42nd St.....	Moses Herrman, Pres. Park Bd.
Iowa.....	West Liberty.....	June 28.....	Erecting school; also for heating system.....	A. L. Branson, Architect.
New York.....	Ithaca.....	July 1, 3 P.M.....	Constructing, complete, U. S. Post Office.....	J. K. Taylor, Washington, D. C.
Arkansas.....	Paragould.....	July 1.....	Erecting 2-story and basement high school.....	L. M. Weathers Co., Memphis, Tenn.
Wisconsin.....	Milwaukee.....	July 1.....	Erecting Auditorium; cost, \$450,000.....	Ferry & Clas, Architects.
Ohio.....	Akron.....	July 1.....	Erecting 12-room school; cost, \$50,000.....	Harpster & Bliss, Architects.
Indiana.....	Covington.....	July 2, noon.....	Repairing Court House roof, plumbing jail.....	Fountain County Commissioners.
Texas.....	San Antonio.....	July 2, 3 P.M.....	Extending, remodeling, etc., Federal Bldg.....	James Knox Taylor, Wash., D. C.
Maryland.....	Baltimore.....	July 3, 3 P.M.....	New plumbing system, etc., Federal Bldg.....	James Knox Taylor, Wash., D. C.
Ohio.....	Cincinnati.....	July 8, noon.....	Erecting high school; cost, \$500,000.....	Dr. J. M. Withrow, Chm. Bldg. Com.
Texas.....	Fort Worth.....	July 8, 3 P.M.....	Extending, remodeling, etc., Federal Bldg.....	James Knox Taylor, Wash., D. C.
North Dakota.....	Madison.....	July 8.....	Erecting ladies' dormitory at Normal School.	Secretary Board of Education.
Colorado.....	Colorado Springs.....	July 9, 3 P.M.....	Erecting, wiring, etc., Federal Building.....	James Knox Taylor, Wash., D. C.
Tennessee.....	Knoxville.....	July 10, 3 P.M.....	Extension, etc., Federal Building.....	James Knox Taylor, Wash., D. C.
Ohio.....	Cleveland.....	July 10.....	Erecting 7-story high school, 272 x 112 ft. of reinforced concrete; cost, \$600,000.....	J. W. Stevens, St. Paul, Minn., Arch.
British Columbia.....	Nelson.....	July 15.....	Erecting \$45,000 school.....	E. C. Arthur, Sec'y School Bd.
New Jersey.....	Newark.....	July 16, 8:30 P.M.....	Erecting high school; also heating, etc.....	Runyon & Carey, Engineers.
Indiana.....	Williamport.....	July 18, noon.....	Reconstructing County Court House.....	Robert L. Winks, County Auditor.
Tennessee.....	Chattanooga.....	July 18, 3 P.M.....	Bldg. extension U. S. Post Office, etc.....	James Knox Taylor, Wash., D. C.
Florida.....	Gainesville.....	July 19, 3 P.M.....	Erecting U. S. Post Office, complete.....	James Knox Taylor, Wash., D. C.

## Bridges

New York.....	Buffalo.....	June 20, 11 A.M.....	Repairing, planting, walks, approaches, etc., of all bridges and viaducts, to June 30, 1908.	F. G. Ward, Com'r Pub. Works.
Ohio.....	Greenville.....	June 20, noon.....	Erecting steel or reinforced concrete bridge..	Chas. S. Slade, City Engineer.
Pennsylvania.....	Washington.....	June 20, noon.....	Constructing bridges.....	Wm. Wylie, County Engineer.
Michigan.....	Grand Rapids.....	June 20, 8 P.M.....	Erecting superstructure, steel bridge; four 150-ft. spans, roadway and 2 sidewalks.....	L. W. Anderson, City Engineer.
Ohio.....	Hamilton.....	June 20.....	Constructing the Woodsdale superstructure..	Chris. Pabst, County Auditor.
Ohio.....	Athens.....	June 22.....	New steel bridge over Hocking River.....	E. R. Walker, County Auditor.
California.....	San Bernardino.....	June 24, 11 A.M.....	Erecting bridge of two 126 ft. spans, through pin connected 6-panel Pratt truss, resting on cylinder piers and concrete bulkhead....	Charles Post, County Clerk.
Nevada.....	Reno.....	June 24, noon.....	Erecting 2 steel bridges over Truckee.....	F. A. Fogg, Clk., Co. Com'rs.
Ohio.....	Columbus.....	June 24, noon.....	Rebuilding and superstructure Leonard Ave. viaduct, also approaches, etc., Marion twp., and approaches, etc., Hamilton twp.....	W. C. Cussins, County Auditor
California.....	Los Angeles.....	June 24, 2 P.M.....	Constructing pile trestle bridge.....	C. G. Keyes, County Clerk.
Tennessee.....	Natl. Soldiers' Home.....	June 25.....	Building concrete bridge over Brush Creek.....	Treasurer of Home.
Nebraska.....	Mitchell.....	June 26, 2 P.M.....	Erecting wooden, steel and concrete bridges; regr. 11,000 cu. yds. concrete, and furnishing 450,000 lbs. structural and reinforcing steel; 66,000 lbs. c. i. head gates and operating devices.....	U. S. Reclamation Service.
Utah.....	Ogden.....	June 26.....	Furnishing and erecting steel bridge.....	Com'rs Davis and Weber Counties
Pennsylvania.....	Prackville.....	July 1, noon.....	Building two concrete abutments and steel bridge of 4-riveted girders under RR. trucks, excav. and grading Spring St.....	A. B. Cochran & Son, Pottsville, Eng.
Pennsylvania.....	Harrisburg.....	July 5, 2:30 P.M.....	Reconstructing Mulberry St. bridge, 2,000 ft. long, 35 ft. rdwy.; 2 walks 5 ft. wide, reinforced concrete; also approaches 30 ft. wide, 554 ft. long, etc.....	D. E. Tracy, Sec'y Bd. Pub. Works
Ohio.....	Enterprise.....	July 6, 1 P.M.....	Constructing steel superstructure, Falls twp.....	County Commissioners, Logan
New Brunswick.....	Fredericton.....	July 8.....	Constructing two spans each 252 2-3 ft. long.....	C. H. L. Lallois, Com'r Pub. Works.
New Mexico.....	Hagerman.....	July 8.....	Erecting metal and concrete bridge, 260 ft. long, 16 ft. roadway over Pecos River.....	W. M. Atkinson, Chm. Co. Com'rs.
Idaho.....	Sandpoint.....	July 8.....	Erecting bridge over Moore Creek.....	Ignatz Weil, Clk., Co. Com'rs.
New Mexico.....	Roswell.....	July 8.....	Erecting metal and conc. bridge, 260 x 16 ft.	W. M. Atkinson, Chm. Co. Com'rs.
Ohio.....	Toledo.....	July 10, noon.....	Building reinforced conc. arch. bridge, 1,184 ft. long, 70 ft. wide, Cherry St.....	Osborn Eng. Co. Cleveland and New York City.
Tennessee.....	Nashville.....	July 10.....	Building concrete piers, 2 bridges, 2 rein. concrete viaduct approaches, etc.....	Howard M. Jones, Co. Eng.
Louisiana.....	New Orleans.....	July 15, 1 P.M.....	Erecting Bascule or lift bridge.....	Charles R. Kennedy, Comptroller.
Ontario.....	Toronto.....	July 16, noon.....	Supplying and erecting steel ry. bridges and hand-railing, Lansdowne Ave. subway.....	C. H. Rust, City Engineer.
Nebraska.....	Fort Snelling.....	July 19, 11 A.M.....	Erecting bridge across Mississippi.....	Jas. B. Quinn, Col. Eng'rs. U. S. A.
Porto Rico.....	San Juan.....	July 20, 10 A.M.....	Plans for 5 steel riveted steel truss highway bridge spans, each 135 ft. 4-in. long between center of piers, 3 bridges.....	J. J. Jimenez, Supt. Pub. Works.

## Miscellaneous

Ohio.....	Cleveland.....	June 20, noon.....	Furnishing 6 steel side dump standard gauge cars for handling garbage.....	A. R. Callow, Sec'y Bd. Pub. Serv.
West Virginia.....	Rowlesburg.....	June 20.....	Erecting complete electric light plant for 50 arc and 2,000 incandescent lamps; plant to be operated by steam.....	H. R. Hollis, City Recorder.



## Miscellaneous—Continued.

New York.....	Niagara Falls.....	June 21, noon.....	Outside electric lighting system, State reservation at Niagara.....	G. L. Heins, Albany, State Arch.
Ontario.....	Ottawa.....	June 21.....	Furnishing 1,600 bbls. Portland cement.....	L. K. Jones, Sec'y D. Rys. & Canals.
Ohio.....	Columbus.....	June 21.....	Electric wiring light, 5 yrs., etc., Co. C. H.....	Dawson & Holbrook, Architects.
Illinois.....	Hillview.....	June 21.....	Erecting power house and pumping station.....	Louis Lowenstein.
Wisconsin.....	Madison.....	June 21.....	Erecting central heating station; also tile and brick chimney, 250 x 14 ft. at Univ. Wis.....	E. F. Riley, Sec'y Univ.
Indiana.....	Fort Wayne.....	June 24, 3 P.M.....	Erecting new municipal lighting plant.....	Edward J. Lennon, Pres. B. P. W.
New Jersey.....	Union.....	June 24, 8 P.M.....	Platform scale, 15 tons, to include platform 22 x 8 ft., with extension in bldg., etc.....	Emil Bantz, Jr., Town Clerk.
Ohio.....	Toledo.....	June 24.....	Building heating and power house, inc. stack, Lucas County Infirmary.....	Lucas County Auditor.
Manitoba.....	Winnipeg.....	June 26.....	Supplying 100 arc lights and 2 regulators.....	F. E. Cambridge, City Electrician.
Indiana.....	Fort Benj. Harrison.....	June 27.....	Electric current, lighting system, inc. transformer sub-station, fixtures, etc.....	Capt. Geo. H. Penrose, Q. M., U. S. A.
Ohio.....	Youngstown.....	June 29, 5 P.M.....	Collection, removal, disposal garbage, 5 yrs. Lighting streets by electricity.....	Clate A. Smith, Sec'y Bd Health.
Ontario.....	Hamilton.....	July 2.....	About \$3,000 worth of concrete masonry.....	S. H. Kent, City Clerk.
Ohio.....	Jackson.....	July 2.....	Complete light and water plant.....	J. W. Turner, County Surveyor.
Missouri.....	Jackson.....	July 9, 7:30 P.M.....	Boiler, chimney, pole line, arc lamps, switch board, transformers, etc., for light plant now building.....	Hiram Phillips, St. Louis, Con. Eng.
Ohio.....	Georgetown.....	July 13.....	Electric lighting, 141 all-night street lights, contract to start June 13, 1908.....	Geo. Hornung, Cincinnati, Eng'r.
Pennsylvania.....	Bradford.....	July 15.....	Supplying and erecting portions of equipment for hydro-electric works, transmission lines, and receiving transformer station.....	Edward C. Charlton, City Clerk.
Manitoba.....	Winnipeg.....	September 3, noon.....	Lighting town by electricity, gas, oil, or other method; now lighted by 9,300 gas lamps of 11,300 24 c.p. and 2,400 c.p. oil lamps.....	M. Peterson, Sec'y, Bd. Control.
India.....	Calcutta.....	December 31.....		Municipal Council.

## STREET IMPROVEMENTS

**Montgomery, Ala.**—Council has decided to pave sidewalks on the south side of Finley avenue, from the east side of South Hull street to the west side of Norman bridge road, with Hexagon block or Schillinger pavement, curb, storm water sewer, etc.; also curbing, storm water and surface sewers in McDonough street, from Winnie street to Felder avenue.—W. M. Teague, Mayor.

**Ft. Smith, Ark.**—Bids will be received, June 20, for the purchase of \$550,000 4 per cent. sewer bonds; also for the purchase of \$750,000 4 per cent. paving bonds.—Harry E. Kelley, Chairman.

**Santa Mateo, Cal.**—The City Engineer is preparing plans for paving certain streets.

**Pueblo, Col.**—Court street will be paved with asphalt, between Second and Twelfth streets, at a cost of \$95,299.

**Washington, D. C.**—It has been decided to pave all alleys in square 518 with vitrified or asphalt block, at estimated cost of \$1,800; square 870, at \$7,148; and square 252, at \$971; also to lay cement sidewalks on portions of these streets, to cost \$1,040; set new granite curb and lay cement walk, Fairmount street, \$833; and to reset curb and lay cement walk on Massachusetts avenue, to cost \$1,123.—H. B. Macfarland, President, Board of District Commissioners.

**Belvidere, Ill.**—Council has decided to pave certain portions of Boone street.

**Cairo, Ill.**—Council has passed an ordinance ordering Washington avenue paved with brick, at an estimated cost of \$129,623.97.—Wilbur B. Thistlewood, City Engineer.

**Moline, Ill.**—The following paving improvements, costing \$42,000, have been approved by the Board of Local Improvements: Third street, from Third to Twelfth, with brick; Seventh avenue, from Twelfth to Fifteenth, with brick or asphalt; Eighteenth avenue, from Seventh to Tenth street, and Tenth street, from Sixteenth to Eighteenth avenue, with brick.

**Streator, Ill.**—Council is arranging to pave certain portions of Avenue E.

**Waukegon, Ill.**—The residents of Mayfield avenue have petitioned for paving.

**Columbus, Ind.**—Council has been asked to construct cement sidewalks on several streets.

**New Albany, Ind.**—The City Engineer, Samuel P. Mann, is preparing plans and specifications for the improvement of Market street; a 26-foot brick roadway, with combined curb and gutter and 6-foot cement sidewalks, are to be constructed.

**New Albany, Ind.**—Thomas street is to be paved with brick and combined curb and gutters, and a 6-foot cement sidewalk constructed; City Engineer Mann is to prepare the plans and specifications at once.

**Fort Scott, Kan.**—Council has decided to pave certain portions of East Wall street and macadamize portions of Margrave street.

**Iola, Kan.**—Council has decided to pave certain portions of streets.

**Mayfield, Ky.**—City Clerk McNealy has been directed to invite bids for brick pavements for East Broadway.

**Newport, Ky.**—City Engineer Morlidge states that bids for street improvements will have to be readvertised owing to the fact that the bids exceeded the estimates; the price of vitrified brick having been materially advanced.

**Shepherdsville, Ky.**—Bids will be received until noon, June 25, for \$25,000 of 4½ per cent. 5 to 20-year Bullitt county road bonds.—J. F. Combs, Commissioner.

**Detroit, Mich.**—About \$3,000,000 will be expended this summer in paving and constructing sidewalks, according to plans and specifications.

**Dundee, Mich.**—Four streets will be paved; plans and specifications have been prepared by the Riggs and Sherman Company.

**Eaton Rapids, Mich.**—Council has decided to advertise at once for paving four blocks on Main street, the cost of which will be \$15,000.

**Laurium, Mich.**—Arrangements are being made to pave certain portions of Hecla street.

**Marquette, Mich.**—Council of the village of Laurium has practically decided to pave a portion of Hecla street; the Board of Public Works of the village of Hancock will have the report of E. T. Sykes, a Chicago electrical engineer, on the proposed electric lighting plant ready for consideration soon; the plant would cost about \$16,000.

**St. Joseph, Mich.**—An ordinance has been passed for the paving of Broad and other streets.

**St. Louis, Mo.**—The Board of Public Improvements is arranging for the paving of a large number of streets.—W. B. Dryden, Secretary, Board of Public Works.

**Geneva, N. Y.**—The Board of Public Works has voted in favor of paving a mile of streets; Elmwood avenue, Elmwood place, Lyceum and Cherry streets will be paved with brick; there will be 15,000 square yards of this material; Pres. Van Auker, of the Council, states that bids are about to be advertised.

**Syracuse, N. Y.**—Council has passed ordinances for constructing stone, cement, asphalt or brick sidewalks, 5 feet in width, with 5-year guarantee, in fifteen or more streets; grading Canton street, at cost of \$1,900, and Hawley avenue, and paving Summit avenue with grooved block or sandstone pavement, and Columbus and Waverly avenues and Court and Grape streets with sheet asphalt or bitulithic.—George J. Metz, City Clerk.

**Watertown, N. Y.**—Requisition has been made on Council by the Board of Public Works for \$28,324.94 to provide for the city's share of the estimated expense of paving sections of Court, Factory, Mill and Pearl streets.—Henry E. Baker, City Engineer.

**Fargo, N. D.**—This year bids fair to be the greatest in the city in the matter of paving; paving on North Broadway is about completed; a block on Eighth avenue, north, is to be paved, Front street is to be paved for ten blocks with brick, Eighth street, south, is to be paved for nine blocks with cedar blocks on concrete base. Steps are being taken for the paving of Fourth avenue, north from the N. P. tracks to the G. N. tracks and fourth avenue north from Fourth street to Broadway; it is probable that N. P. avenue will be paved and there is talk of putting in brick pavement on that street; the total expenditure for paving this year will be not far from \$250,000.—S. F. Crable, City Engineer.

**Akron, O.**—A petition has been filed with the Clerk by 110 business men asking that the Medina stone pavements in the central part of the city be relaid; this includes East and West Market and Mill streets; good quality paving brick will be used.

**Ashland, O.**—Bids will be received, July 1, for the purchase of \$26,000 5 per cent. street improvement bonds.—A. P. Black, Village Clerk.

**Bridgeport, O.**—Council has passed an ordinance providing for an issue of \$10,000 paving bonds.

**Conneaut, O.**—Bids will be received, June 22, for the purchase of \$4,200 5 per cent.

paving bonds.—H. T. Culp, City Auditor.

**Cuyahoga Falls, O.**—Special assessment ordinances for the paving of North and South Front streets have passed Council; the improvement will cost \$35,000.

**Dillonale, O.**—The city is likely to have \$25,000 worth of paving arranged for the coming season; this will include the paving of half the streets of the village.

**Lima, O.**—Council has passed resolutions providing for the paving of South Broadway with asphalt block or vitrified brick; plans for this work will be immediately prepared and bids invited.

**Marietta, O.**—Bids will be advertised shortly for all new paving jobs to be done here this summer; plans for this work have all been completed.—Arthur F. Cole, City Engineer.

**Mt. Gilead, O.**—Council will probably recommend the paving of South Main street.

**Pleasant Ridge, O.**—All bids received, June 3, for constructing 2,000 feet of artificial stone sidewalks on two streets were rejected; bids will be readvertised.—W. C. Davies, City Clerk.

**Pomeroy, O.**—Engineer Middleton has shown Council a profile of the proposed paving; it is proposed to construct a mile of new pavement, costing \$13,700, for Front street and \$16,256 for the other end of Front street; brick is to be used; the question of constructing a curb is yet an open one.

**Ravenna, O.**—Charleston road, from Ravenna village east to the township line, will be macadamized; Dan R. Hanna, of Cleveland, a heavy property owner, will pay 40 per cent.; a survey and estimate of the cost will be made at once; W. H. Marsh is Chairman of the Board of Trade Committee, which is in charge of the improvement.

**Sandusky, O.**—Bonds will be issued for paving Lawrence, Osborn and Washington streets.

**Wauseon, O.**—Residents of Upper Fulton street have asked Council to pave the street from Willow to Linfoot; the trustees of the township expect to build a mile of stone road from Copeland's corner to the North End; a large amount of paving is to be done during the summer.

**Westerville, O.**—Vine street is to be paved with brick as soon as plans can be prepared and bids advertised.

**Youngstown, O.**—Bids will be received, June 24, for the purchase of certain paving and sewer bonds; about \$30,000 will be sold at this time.—Wm. I. Davis, City Auditor.

**Marshall, Tex.**—The town has decided to issue \$90,000 bonds for constructing sidewalks.

**Minerva, Va.**—Bids will be received, June 27, for \$4,600 5 per cent., semi-annual street improvement bonds.—A. H. Freed, Village Clerk.

**Phoebus, Va.**—As soon as tracks are completed \$40,000 worth of paving will be done.

**Montesano, Wash.**—An ordinance has been passed providing for the paving of certain portions of Spruce street.

**Seattle, Wash.**—Councilman Mullen has introduced a resolution into Council directing the Board of Public Works to furnish an estimate on the cost of an asphalt plant, with a capacity of 1,000 square yards a day.

**Bluefield, W. Va.**—An issue of \$100,000 worth of bonds has been authorized for the improvement of the streets west of Mercer street.

**Salem, W. Va.**—Bids will be received, June 20, for the purchase of \$31,500 5 per cent., 34-year paving bonds.—R. L. Towles, Recorder.

**Racine, Wis.**—The city will pave certain portions of Center street, and macadam all the cross streets from Lake to Center street.

## SEWERAGE

**Whittier, Cal.**—The electors will vote on the question of issuing \$85,000 sewer bonds.

**Torrington, Conn.**—The construction of sewers is being considered, at a probable cost of \$50,000.—W. A. T. Williston, Engineer.

**Coeur d'Alene, Ida.**—Bids will be received, June 24, for the purchase of \$50,000 sewer bonds.—Alex. Main, Clerk.

**Chicago, Ill.**—Commissioner of Public Works John J. Hanberg wants a new sewerage system for the downtown district; he is of the opinion that the Sanitary District Board should construct it.

**Columbus, Ind.**—The city has ordered the preparation of plans for a sewer system in Fifth and Mechanic streets; bids are to be invited as soon as plans are prepared.

**Chelsea, Mich.**—Plans for constructing sewers and a sewage disposal plant are being made by Geo. S. Pierson, of Kalamazoo.

**Ford, Mich.**—Bids will be received for the construction of a system of sewers, according to plans and specifications prepared by Mason L. Brown and Company, Detroit; estimated cost, \$80,000.

**Grand Rapids, Mich.**—The city has under consideration proposition to construct a sewer system on North Front street, and the extension of the Broadway sewer.

**Canton, Miss.**—Plans for house sewers are being made by W. G. Kirkpatrick, Jackson, Miss.

**Lewiston, Mont.**—A mile of 24-inch sewer may be built.—Otto F. Wasmansdorff, City Engineer.

**Lakewood, N. J.**—The Lakewood Water, Light and Power Company will build a sewage disposal system, consisting of septic tanks and filter beds.

**Syracuse, N. Y.**—Council has ordered construction of 15-inch pipe sewer in Lodi street and 12-inch sewers in Highland, Maple and Madison streets.—George J. Metz, City Clerk.

**Watertown, N. Y.**—The State Board of Health refuses to approve the plans for reconstructing the condemned sewer in Clinton street until provision shall be made for sewage disposal work; such a report has been received by the Board of Public Works, which will further consider the matter; the Board received a petition for the extension of the Academy street sewer to the park entrance.—Henry E. Baker, City Engineer.

**Akron, O.**—The City Engineer will probably be requested by Council to readjust the sewer system of the city to comply with the orders of the State Board of Health; the main trunk sewers are now used for both sanitary and storm purposes; the cost of making these changes will be very large; a disposal plant will also have to be erected.

**Ashland, O.**—Several thousand dollars will be expended for improving sewerage system.

**Bellaire, O.**—Plans are being discussed for a sewer in South Gernsey street, and the Village Engineer has been instructed to prepare the plans.

**Chagrin Falls, O.**—Council has passed the resolution to build a sewer on Broad street.

**Columbus, O.**—The Board of Public Service has been authorized to contract for \$13,500 worth of machinery for the East Side sewage pumping station; also for a main to connect the new filtration plant with the city water pumping station, at a cost of \$165,000.—Henry Metzel, City Engineer.

**Dayton, O.**—City Engineer Klein has submitted plans for a sanitary sewer in District No. 6, to cost \$28,000.

**Eaton, O.**—Council has definitely decided that the special election for bonding the town for a sewage disposal plant shall be held on July 22; the improvement will be both a storm and sanitary sewer.—C. F. Ressler, Clerk.

**Hamilton, O.**—The City Engineer has been instructed to prepare plans for a sanitary sewer in Washington street.

**Jackson, O.**—Council has approved plans for a sanitary sewer system as recently filed by City Engineer Torner; an ordinance will be prepared calling for the construction of this system.

**Lancaster, O.**—Thomas Hill is low bidder for the construction of the Clark street sewer, at \$10,897 for cement and \$11,171 for tile.

**Lorain, O.**—Engineer J. B. Nichols has been laying out a new allotment west of the city for G. W. Hartman, which it is proposed to improve by a suitable sewerage system and water works.

**Norwalk, O.**—Council has decided to recommend a \$25,000 bond issue for constructing a network of sewers in the eastern part of town, plans for this have been prepared by Engineer E. G. Bradbury, of Columbus.

**Orrville, O.**—The town has voted in favor of a \$55,000 bond issue for the construction of sanitary sewers.

**Scranton, Pa.**—Estimates are being prepared for the erection of sewers in Section A in the northern sewer district; estimated cost, \$23,000.

**Sturgeon's Bay, Wis.**—The Board of Public Works has directed the deputy to prepare plans for sewers in District No. 7.

## WATER SUPPLY

**Denver, Col.**—According to plans perfected by the contracting firm of J. G. White & Co. and Chicago and Denver financiers there is to be constructed near Denver the biggest dam in the world; it is intended to irrigate more than 100,000 acres of land; the dam will be known as the Stanley Dam, and it will be built at a point nine miles northwest of Denver, and confine the flow of five rivers; it will have a length of a mile and a quarter, a height of 150 feet, and 10,000,000,000 cubic yards of material will be required for its construction.

**Para, Ga.**—The construction of water works is being considered.

**Sparks, Ga.**—Council has authorized an election to vote on \$10,000 water works bonds.

**Bloomington, Ill.**—Mayor Schnellbacher has under consideration the purchase of the city water plant or erecting new one.

**Decatur, Ill.**—Council has employed an engineer to estimate the cost of improving the water system, who recommends the laying of 30,000 feet of 6-inch water mains, in addition to 20 blocks of 12-inch pipe and 4 blocks of 16-inch pipe.

**Elgin, Ill.**—An ordinance has been passed providing for an issue of bonds to pay for an extension of water mains.

**Pekin, Ill.**—A committee has been appointed by Council to confer with the Manager of the Water Company with a view to purchasing same.

**Rushville, Ind.**—The town is planning to expend \$1,500 in water works and lighting improvements.—Oliver Ong, Superintendent.

**West Bend, Ind.**—Council has directed plans and specifications to be prepared for the water system, for which bonds have been issued; bids will be received as soon as plans and specifications are completed.

**Covington, Ky.**—The Water Works Commissioners have estimated the cost of laying new water mains in Madison avenue at \$10,000, and the improvement will be authorized.

**Cumberland, Md.**—The issue of \$50,000 bonds for the extension of the water works by the addition of a new pump was voted down; the matter of securing a source of supply other than the Potomac river, which will involve the expenditure of several hundred thousand dollars, will now be taken up.

**Lawton, Mich.**—The citizens have voted \$9,000 bonds for water works.

**Northport, Mich.**—Bonds, \$10,000, have been voted for the extension of the water and light plant.—Christ E. Kehl, President of the Board.

**Biwabik, Minn.**—The Biwabik Mining Company proposes to establish a light and water system.—C. J. Lutes, Superintendent.

**Belleville, Mo.**—A franchise has been granted the Belleville Deep Water Company to make additions to its works, consisting of wells, a pumping station and a reservoir.

**Exeter, Neb.**—The citizens have voted \$15,000 bonds for water system.

**Lebanon, N. H.**—The Village Fire Precinct Committee appointed to investigate the problem of securing a better water supply for Lebanon Center recommends that two mechanical filters, each having a daily capacity of not less than 500,000 gallons, be purchased and properly installed in a building to be erected near the present pumping station.—Address N. C. Bridgman.

**Poughkeepsie, N. Y.**—Representatives of the Roche Filtering Company have presented a proposition to Council to build a new filter plant for \$75,000, to be paid for in five years at \$15,000 a year.

**Barnesville, O.**—The town is considering the advisability of erecting a \$5,000 elevated tank for use in connection with the water works system.

**Canal Dover, O.**—As a result of the disastrous fire at Shanesville, the question of constructing a suitable water works system is under consideration.

**Canton, O.**—Bids will be received, July 1, for the purchase of \$4,600 4 per cent. 10-year water works bonds.—Armstrong Ashbrook, City Auditor.

**Norwood, O.**—The town will bond itself in the sum of \$34,000 for the purchase of Langdon's Wood's tract, which will be used by the city for water works and park purposes.

**Wellston, O.**—The State Board of Health has condemned the water supply and recommends an entirely new system; increased storage and suitable filtration will be immediately recommended; it is proposed to get the new water supply from Lake Alma; engineers will be consulted as to the best method to attain this end.—B. R. Billingsley, Mayor.

**Portland, Ore.**—Bonds, \$3,000,000, have been voted for a new pipe line to Bull Run.—Harry Lane, Mayor.

**Seguin, Tex.**—The trustees of the water and lighting plant will expend \$10,000 in improvements.

**Norfolk, Va.**—An ordinance has been introduced appropriating \$25,000 for the purchase of 1,000 water meters.—W. T. Brooke, City Engineer.

**Charleston, W. Va.**—The South Charleston Water & Light Company has been incorporated with a capital stock of \$100,000, to supply electricity and gas for fuel and lighting purposes, to operate street car lines and to furnish water, etc.—F. M. Staunton, E. T. Crawford, W. L. Ashby, incorporators.

**Linden, Wis.**—The matter of issuing bonds for water purposes is under consideration.

**Toronto, Ont., Can.**—The matter of expending \$1,000,000 for water works improvements is under consideration.

## LIGHTING AND ELECTRICITY

**Bessemer, Ala.**—Harrison, Gay and Sly, of Biloxi, Miss., have received franchise to build gas plant; the Bessemer Gas Company is the name of the new organization.

**Calhoun, Ga.**—An election has been called, July 8, to vote on the question of issuing \$125,000 bonds for the erection of lighting plant.

**Bloomington, Ill.**—Engineer A. T. Wathery has made report to the lighting committee of Council as to the cost of remodeling the present electric lighting plant; estimated cost, \$40,000.

**Chicago, Ill.**—The Northern Illinois Electric Company has been incorporated with a capital stock of \$250,000 to operate light and power plant.—Leander D. Forden, Ewd. Kloss and others, are incorporators.

**Vincennes, Ind.**—The Hydro-Electric Company has been incorporated with a capital stock of \$10,000 by Eugene Rush, Lucius Embree and a number of others; the company is planning to erect a dam over the river at Decker.

**Louisville, Ky.**—Bids will be received by the Kentucky Electric Company for constructing an electric plant; estimated cost, \$800,000.—Donald McDonald, President.

**Salisbury, Md.**—The Salisbury Light, Heat and Power Company, which was owned exclusively by Louis Dalmas and one or two others of Philadelphia, Pa., has been purchased by a syndicate of Salisbury capitalists, and the property taken over by its new owners; the directors of the new company are: M. V. Brewington, President; S. A. Graham, Secretary-Treasurer; George T. Houston, Samuel R. Douglas, William J. Downing, William M. Cooper and R. R. Rhodes; the present contract price for street lighting is \$60 a year for each arc light and \$9 a year for each twenty-four-candle-power incandescent lamp.

**Biwabik, Minn.**—J. C. Lutes, Superintendent of the Biwabik Mining Company, is preparing to build a mine lighting plant.

**Meridian, Miss.**—The Meridian Light & Railway Company proposes to increase its capital to \$2,000,000, for the purpose of extending the electric railway and lighting plant.—A. J. Patterson, Mobile, Ala., President.

**Morristown, N. J.**—The Aldermen have voted to appoint local Commissioners to control and supervise the lighting of the town; the present lighting system is not satisfactory.

**Buffalo, N. Y.**—Council has under consideration the placing of all electric wires underground.—F. G. Ward, Commissioner of Public Works.

**Sherburne, N. Y.**—The State Commission of Gas and Electricity at Albany has received an application from the village for permission to issue \$15,000 bonds to establish a municipal electric lighting plant, which has been voted by the citizens.

**Arlington, O.**—The Town Council has accepted plans of George Champe, Toledo, for the construction of a municipal electric lighting plant.

**Ashtabula, O.**—Councilman H. D. Cook states that Council has decided to spend considerable amount on the light plant; the power house is to be extensively repaired, although the exact extent of the outlay is undecided; it is roughly estimated that the cost will be over \$50,000.

**Cleveland, O.**—The Erner Electric Company has increased its capital stock from \$50,000 to \$125,000 for improvements.

**Springfield, O.**—The People's Lighting, Heating and Power Company has issued \$25,000 in bonds for the purpose of taking up outstanding bonds and making improvements, including the installing of a direct-current system.

**Lawton, Okla.**—G. S. Stephenson, Ansonia, O., will erect a gas plant; estimated cost, \$50,000.

**Portland, Ore.**—The citizens have voted a franchise to another gas company.—Harry Lane, Mayor.

**Lawrenceburg, Tenn.**—Plans have been prepared by Kirkpatrick and Johnson, of Jackson, Miss., for an electric light and water system, estimated to cost \$25,000.—Robert Williams, Mayor.

**Livingston, Tex.**—The Livingston Electric Light Company has been incorporated with a capital stock of \$2,000 by H. B. Davis, J. E. Hills, Jr., and others.

**Raymond, Alta, Can.**—The town will install an electric lighting system and improve its water works.



## FIRE EQUIPMENT

**Pine Bluff, Ark.**—The new fire station at Lakeside and Sixteenth avenue is under course of construction; fire apparatus will be purchased and installed.

**Santa Monica, Cal.**—Plans and specifications are being prepared for the erection of an additional engine house.

**Forrestville, Conn.**—The Selectmen propose to purchase a fire steamer.

**Middletown, Conn.**—The Fire Committee of the Common Council have plans for the organization of a new fire company.

**Jackson, Mich.**—A site has been purchased for the erection of two engine houses.

**St. Louis, Mo.**—Bids will be received for building engine house No. 36.—W. B. Dryden, Secretary, Board of Public Works.

**Bordentown, N. J.**—The Chief of the Fire Board has petitioned for additional hose and for a more modern hook and ladder truck.—Chas. E. Burr, Chief.

**Buffalo, N. Y.**—The Fire Commissioners have petitioned for a new structure to take the place of the present fire headquarters.

**Cincinnati, O.**—Bonds, \$25,000, have been issued for the erection of a fire house in Wilson Place.

**Columbus, O.**—A new engine house is to be erected at Livingston and Parsons streets.

**Lorain, O.**—About \$50,000 will be expended for an improvement to the Fire Department, including the construction of a house, the installation of a fire alarm system, engines, etc.

**Portland, Ore.**—Bonds have been voted for a fire boat.—Harry Lane, Mayor.

**San Angelo, Tex.**—The fire wagon has been destroyed by fire; the town is now without sufficient fire protection.

**Brillion, Wis.**—Council has decided to purchase fire engine.—F. R. Eklund, Village Clerk.

## PUBLIC BUILDINGS

**Lyndon, Cal.**—The question of issuing bonds for the erection of school house will be submitted to a vote of the people.

**Atlanta, Ga.**—A bond issue of \$300,000 is planned by the Fulton County Board for building Court House.

**Charleston, Ill.**—The citizens have voted \$225,000 bonds for building Court House.

**Elkhart, Ind.**—An ordinance is being considered authorizing the issue of \$50,000 bonds by the Board of County Commissioners for the construction of County Court House.

**Des Moines, Ia.**—The citizens will vote at a special election, June 20, on issue of \$350,000 bonds for erecting a City Hall.—George W. Mattern, Mayor.

**Wichita, Kan.**—The matter of issuing \$150,000 bonds for school purposes will be submitted to a vote of the people.

**Worthington, Minn.**—An election will be held to vote on the question of issuing \$20,000 school bonds.

**Young America, Minn.**—The citizens have voted \$6,000 bonds for the erection of City Hall.

**Independence, Mo.**—An election will be held, June 25, to decide question of issuing \$35,000 4 per cent. school bonds.—John W. Davis, Secretary of the Board.

**Monroe City, Mo.**—The Monroe County Board has under consideration issue of \$75,000 bonds for building Court House.

**Harvard, Neb.**—The School Board is preparing to issue bonds for enlarging the seating capacity of the high school.

**Merna, Neb.**—Bonds, \$10,000, have been voted for the erection of school house.

**Newman Grove, Neb.**—Bonds, \$16,000, have been voted for erecting school house.

**Geneva, N. Y.**—The citizens will vote on proposition to erect a new City Hall, preliminary plans for which are being considered by Council.—A. P. Rose, Mayor.

**Syracuse, N. Y.**—City Engineer Henry Calen has engaged the firm of Gaggin & Gaggin as architects to prepare plans for the proposed 16-room school building to be erected on the Salina school site at a cost of \$65,000, and hopes to have matters in shape for awarding contracts at an early date.

**Lebanon, O.**—Bids will be received, July 8, for the purchase of \$5,000 4½ per cent. town hall bonds.—William B. Hayner, Trustee.

**Lawton, Okla.**—The Mayor and Council have petitioned the Board of Education to call an election to vote on the question of issuing school bonds in the sum of \$25,000.

**Portland, Ore.**—Two acres at the north end of the Montgomery fill have been offered to the city by Henry Moore for \$45,000 as a site for the new Municipal Court and Police Office, and Council is considering proposition.

**Nashville, Tenn.**—Bids will be received, June 25, for \$160,000 4 per cent. 20-year Criminal Court and County jail bonds.—W. G. M. Campbell, Chairman, County Commissioners.

**Dallas, Tex.**—The city has voted \$500,000 water works improvements; \$100,000 of street improvements, and \$500,000 public school building bonds.

**El Reno, Tex.**—Council will open bids, July 3, for the purchase of \$100,000 school bonds.

**Hallettsville, Tex.**—Arrangements are being made to issue \$18,000 bonds for the construction of a brick school building.—Eugene A. Turk, Secretary.

**Manor, Tex.**—The Attorney General has approved issue of \$13,000 school bonds.

**Palacios, Tex.**—Bonds, \$5,000, have been voted for school purposes.

**Port Arthur, Tex.**—An election will be held to decide the question of issuing \$10,000 bonds for school purposes.

**Walnut Springs, Tex.**—The citizens have decided to issue \$15,000 bonds for the erection of school house.—Address C. C. Rushing.

**Montpelier, Vt.**—The Committee appointed to arrange for construction of the new City Hall, voted for several months ago, is having difficulty making terms with an architect and a man to superintend the work.

**Lacrosse, Wis.**—An ordinance has been passed authorizing an issue of \$65,000 4 per cent. army bonds.

**Mineral Point, Wis.**—Bonds, \$40,000 have been voted for the erection of a City Hall.

## STREET RAILWAYS

**Washington, D. C.**—The Capitol Traction Company has filed a mortgage to secure \$6,000,000 5 per cent. bonds, which will be used for additional construction and equipment.

**Jacksonville, Fla.**—The Jacksonville Electric Company is preparing to lay double tracks on several streets.

**Centralia, Ill.**—The Centralia & Sandoval Railway Company has been incorporated with capital of \$2,500, to construct an electric line from Centralia to Sandoval.—W. M. Warnock and George D. Burroughs, of Edwardsville, and others, Incorporators.

**New Albany, Ind.**—The Louisville & Northern Railway and Light Company has recently completed a survey for an electric line to French Lick and West Baden Springs by way of Paoli; when this is completed contracts for construction will be awarded; the proposed road is 50 miles long.

**Louisville, Ky.**—The Louisville Railway Company has decided to issue \$500,000 6 per cent. bonds for extending its line and making other improvements.

**Syracuse, N. Y.**—The Board of Supervisors has adopted a resolution requesting the Rapid Transit Railway Company to extend one of its lines to the County Home in the town of Onondaga.—Address E. L. Maykes, Onondaga, Supervisor.

**Portland, Ore.**—The Puget Sound International Railway & Power Company has been organized to operate railways; capital stock, \$500,000.—John E. Rousmaire, Alvah K. Todo, Phillip L. Warren, and others.

**Ablene, Tex.**—Survey is being made for building line by the Abilene Street Railway Company.—J. M. Wagstaff, Incorporator.

## BRIDGES

**Los Angeles, Cal.**—The Los Angeles Pacific Railway Company has petitioned for franchise to construct subway under Hill street.

**Huntington, Ind.**—The County Commissioners have adopted plans and specifications for bridges and abutments in various parts of the county.

**Muncie, Ind.**—Special appropriations aggregating more than \$13,000 have been made by the County Council, and \$8,000 is for new bridges; none of them are large bridges, being short spans, and will be distributed in all parts of the county.—Address County Commissioners.

**Grinnell, Ia.**—A steel bridge will be built on the county line near Grinnell; the Rock Island will erect the structure at a cost of \$3,250, and it will be of concrete and steel; the two counties will aid by slight donations.

**Iola, Kan.**—Council has instructed City Engineer Amerman to advertise for bids for the construction of a bridge on North Jefferson street, and retaining-wall for the bridge on North street; the North street bridge is still under consideration; the bridges are being built for the paving that is to go on in these streets; the City Engineer has drawn the plans for the North Jefferson street bridge.

**Topeka, Kan.**—Within the next eighteen months a bridge, costing approximately \$16,000, and will be built across the Kaw river at a point south of Granville, and will connect Jefferson and Shawnee counties; articles of agreement were signed by the Boards of County Commissioners of the two counties.

**Benton Harbor, Mich.**—The citizens have voted \$30,000 bonds to aid in building highway bridge crossing the St. Joseph river.

**Hancock, Mich.**—Council has directed plans to be prepared for remodeling Front street bridge.

**Tecumseh, Mich.**—A proposition has been submitted to the electors of Tecumseh township to raise \$14,000 to build a bridge over the river at the point in the highway known as the Red Mill Dam.

**Rochester, N. Y.**—Copies of the plans for the Culver street railroad subway, the esti-

mated cost of which is \$200,000, have been prepared.—E. A. Fisher, City Engineer.

**Fargo, N. Dak.**—County Auditor Lewis has been instructed to advertise for bids to construct the following bridges and repair others referred to: Stanley township, between Sections 5 and 6, new bridge, 100 feet in length; Leonard township, between Sections 25 and 26, new bridge, 40 feet long; Amelia township, new bridge, northeast corner of Sections 15-140-51, 440 feet long; Reed township, between Sections 29 and 32, new bridge, 30 feet long; between Sections 7 and 8, repair bridge 170 feet long with 3-inch planks; between Sections 13 and 19, new bridge, 150 feet long; Buffalo township, between Sections 24 and 25, new bridge, 60 feet long; Barnes township, between Sections 25 and 26, repair bridge 70 feet long with 3-inch planks; repair bridge 120 feet long with 3-inch planks; repair bridge 100 feet long with 3-inch planks, and put in new stringers; Amelia township, between Sections 27 and 28, new bridge, 120 feet long; between Sections 24, Amelia township, and Sections 19, Rush River township, new bridge 60 feet long; between Section 30, Amelia township, and Section 31, Rush River township, bridge 20 feet long; Watson township, between Sections 8 and 9, new bridge, 100 feet long.

**Dayton, O.**—City Engineer Robert Kline estimates that a new steel reinforced bridge at Salem avenue would cost \$140,000; an ordinance is before Council to issue and sell \$30,000 bonds for repairing the Dayton View bridge.

**Toledo, O.**—Bids will be received, July 3, for \$525,000 4 per cent., semi-annual, new Cherry street bridge bonds.—R. G. Bacon, City Auditor.

**Zanesville, O.**—Plans and specifications for the proposed Roseville bridge will be placed on file at the office of the County Commissioners; bids wanted.

**Portland, Ore.**—Bonds, \$45,000, have been voted for a new Madison street bridge.—Harry Lane, Mayor.

**Harmarville, Pa.**—The Pennsylvania has prepared plans for building a new bridge over Deer Creek at Harmarville, when the one which was washed out in the recent flood was located; the new bridge will cost about \$50,000.

**Nashville, Tenn.**—Bids will be received, June 25, for \$800,000 4 per cent., 30-year bridge bonds.—W. G. M. Campbell, Chairman, County Commissioners.

**Ogden, Utah.**—The City Engineer has been directed to prepare plans and advertise for bids for erecting two concrete bridges near Ogden Canyon.

**Morgantown, W. Va.**—The citizens have voted \$75,000 bonds for constructing new bridge across the Monongahela river.

**Lacrosse, Wis.**—The Board of Public Works has rejected all bids for the construction of the new bridge over the lagoon at Pettibone Park; there were five bidders and all bids were above the estimate of \$6,000; the lowest bid was \$7,300 and the highest bid \$9,800.

**Manitowoc, Wis.**—Plans and an estimate on cost for placing State street bridge at Park street have again been asked for by Council; the City Engineer being instructed to prepare same.

**Milwaukee, Wis.**—The Council Committee on Bridges and Viaducts will recommend that a \$6,500 bridge be constructed across Kinnickinnic river at Seventh street; a pontoon bridge to cost \$2,000 will replace the First avenue bridge for the convenience of the manufacturers on the island.

**Racine, Wis.**—The erection of a bridge across Root river and connecting Herrick and Lafayette avenue is now a certainty and Council had adopted a resolution ordering the work done and which is estimated to cost about \$14,000.

## MISCELLANEOUS

**Kankakee, Ill.**—The Council decided to purchase two galvanized iron garbage wagons and one can wagon for the city; the can wagon is provided with eighteen cans and is used to convey street sweepings to the outskirts of the city.

**Owosso, Mich.**—The City Clerk is receiving bids for the purchase of \$10,000 improvement bonds.

**Princeton, Mich.**—Plans and specifications, with quantities included, etc., for the construction of roads, sewer and water systems, erection of wire fencing, clearing of roads, house lots and reservations (erection of three wooden bridges), for the Cleveland-Cliffs Iron Co., are now ready, and work will be started without delay; the Munising R. R. is right on the property, and gravel for surfacing roads and walks may be obtained on the property; bids are asked for the whole six sections complete, or for each section separately; the Cleveland-Cliffs Iron Company furnishes the water and sewer pipe and specials, also the wire and posts for fencing, several car loads of material being already on the property.—Chas. H. Pratt, Engineer in Charge.

**Duluth, Minn.**—Council has under consideration the issue of \$50,000 park bonds.

**Hightstown, N. Y.**—A street sprinkler will be purchased.—Mayor Shangle.

**Cortland, N. Y.**—Prominent citizens are agitating the need of a public park, and Council will be urged to purchase about three acres in the Randall tract and appoint a Park Commission to carry out the project.

**Gastonia, N. C.**—An election will be held, July 2, to vote on issue of \$30,000 street, \$15,000 school, \$23,000 of water works and sewer, \$2,000 electric light and \$5,000 refunding bonds.

**Akron, O.**—New street signs and the repair of old ones are much needed, according to Councilman Seward.

**Columbus, O.**—Council has decided to locate the garbage disposal plant on the farm on which the sewage disposal works are being constructed.

**Delaware, O.**—Bids will be opened, July 1, for \$4,000 5 per cent. sprinkling and cleaning bonds.—F. D. King, City Auditor.

**Norwalk, O.**—Bids will be received, July 1, for the purchase of \$40,000 5 per cent. improvement bonds.—T. P. Kellogg, City Auditor.

**Portland, Ore.**—Bonds have been voted for parks and other municipal improvements, including \$500,000 for a free dock.—Harry Lane, Mayor.

**York, Pa.**—The officers of the Municipal League are agitating the project of spending \$750,000, of which \$400,000 will be for sewers, \$250,000 for paving and \$100,000 for parks; A. B. Farquhar is President of the Municipal League; Engineers Hering & Fuller have submitted preliminary plans and sketches.

**Vera Cruz, Mexico.**—Plans for the improvement of the terminals at Vera Cruz, to cost over \$8,000,000, have been approved by the Department of Communications.

## BIDS RECEIVED

**Waterbury, Conn.**—Paving contracts to the amount of \$39,532 have been awarded to the Warren Brothers; West Main and North Willow streets will be paved with bitulithic on 6-inch concrete at a cost of \$2.60 per square yard; Bishop and Elizabeth streets will be paved with bitulithic on 4-inch broken stone foundation for \$2.35 a square yard.

**Washington, D. C.**—The Hoffman Construction Company, represented by James J. Overn, has been awarded contract for filling in and grading the approaches to the Sixteenth street bridge across Piney Branch, at 20.9 cents a cubic yard, work to be finished in six months, making a total of \$28,000; other bidders were E. G. Gummel, 44 cents a cubic yard to be finished in sixteen months; L. R. Colbert, 39 cents and twelve months; G. B. Mullin, 28½ cents, and nine months, and the Warren F. Brenizer Company, 35 cents and fifteen months.

**Jacksonville, Fla.**—Bids for 2,000 feet of 2½-inch rubber-lined hose have been received as follows: the Eureka Hose Company bid on five brands, their bid being \$1 per foot for one brand and 95 cents, 85 cents and 75 cents per foot for other brands; the Boston Woven Hose and Rubber Company bid on three different brands, through the Florida Hardware Company, of Jacksonville; Cambridge, 85 cents per foot; Middlesex, 75 cents per foot; Dauntless, 65 cents per foot; the Fabric Fire Hose Company bid on Dilos, 90 cents per foot, and Keystone, 90 cents per foot; all of the bids were referred to the Fire Committee with power to act.

**Plant City, Fla.**—The Town Council has let a contract to the Hughes Specialty Company, Charleston, S. C., to drill a well and erect a tank for public water works.

**Columbus, Ga.**—The Southern Bitulithic Company, of Nashville, Tenn., has received a contract for 18,240 square yards of paving.

**Connersville, Ind.**—Chas. Nathans, Jr., has been awarded contract for reselling 2,100 lineal feet, combined curb and gutter, at \$2½ cents per foot, and 5 inlets at \$17.80 each, total, \$1,192.50; Miller Brothers bid \$1,219.50; Everroad, \$1,239; Michaels & Minnick, \$1,218.—Jacob S. Clouds, City Engineer.

**Portland, Me.**—Warren Brothers Company will construct 13,000 additional square yards of bitulithic.

**Hutchinson, Kan.**—The Kansas Bitulithic Company, of Kansas City, Mo., has received a contract for 28,129 square yards of paving.

**Newcastle, Ind.**—Martin Brothers, of Hamilton, O., have been awarded contract to erect the big power house for the light, heat and power company, the boilers will have a capacity of nearly 1,000 h.p., and the equipment will be sufficient to carry 20,000 lights.

**Boston, Mass.**—Bids received at Massachusetts Highway Commission, June 6, for State highways in the following towns: Buckland, A. DePolito, \$5,792.05, and Fred E. Ellis, \$5,190.95; Agawam, Worcester Broken Stone Co., \$6,158.25; R. F. Hudson, \$6,127.85, and Fred E. Ellis, \$5,298.03; Sunderland, Fred E. Ellis, \$3,837.45, and Lane Construction Corporation, \$3,347.60.

**New Bedford, Mass.**—Warren Brothers Company, of Boston, have received a con-

tract for 7,000 square yards of paving; this was one of the first cities to adopt bitulithic six years ago.

**St. Joseph, Mich.**—M. H. McGovern, Chicago, Ill., was low bidder for constructing trunk sewer, at \$37,417.85, as follows: excavation and fill, 55 cents per cubic yard; remove and replace paving, \$1.75 per square yard; Davidson reinforced concrete block sewer, 36-inch, \$1.90; 30-inch, \$1.60; 24-inch, \$1.32; earthenware, 20-inch, \$1.26; 18-inch, 96 cents; 15-inch, 75 cents; 12-inch, 60 cents; manholes, \$3; Y-branch connections, \$1.20; cast-iron pipe, laid, per ton of 2,000 pounds, \$50; outlet, extra, \$250; A. Green, of Grand Rapids, bid \$46,432.75; Northern Construction Company, Elkhart, Ind., \$46,249.90, and Green & Sons Company, Chicago, Ill., \$44,192.74, all bidding on concrete sewer for 24, 30 and 36-inch sizes.—Harry L. Murphy, City Clerk.

**Traverse City, Mich.**—A contract for 9,600 square yards of paving has been awarded the Central Bitulithic Company, of Detroit.

**Natchez, Miss.**—A contract for 27,500 square yards of paving has been awarded the Southern Bitulithic Company, of Nashville, Tenn.

**St. Louis, Mo.**—A fourth contract, aggregating 29,897 square yards of bitulithic, has been awarded the Granite Bituminous Paving Company.

**Paterson, N. J.**—A contract has been signed with the Public Service Corporation for furnishing arc lights for street lighting at \$77.50 per annum, a reduction from \$101.—John Johnson, Mayor.

**Morristown, N. J.**—J. B. & H. K. Salmon were low bidders for the sewage disposal plant, at \$98,006.31; George B. Raymond for furnishing clay pipe, at \$29,211.90, and Antonio Costa, of Orange, for laying pipe, at \$153,279.31; Costa was five minutes late in submitting his bid and suit has been brought by Thomas J. Allan, the next lowest bidder, to restrain the Sewer Commissioners from awarding the contract to Costa; the Commission holds that a clause which empowers it to waive formalities will enable it to award the contract to Costa.

**Perth Amboy, N. J.**—Bids have been received, as follows: Fifteen-inch pipe sewer in Elizabeth street, Johan Jensen, \$1,493.30; Charles street sewer of similar dimensions, the Dahl & Dressler Realty & Construction Company, \$2,356.80; Johan Jensen, \$2,882.80; Cortlandt street sewer, the Dahl & Dressler Company, \$1,916.90; Johan Jensen, \$1,944.70; Martin Hansen, \$1,870; Catherine street sewer, Dahl & Dressler, \$1,482.40; Johan Jensen, \$1,452.80; for grading Johnstone street from Washington street to New Brunswick avenue, Liddle & Pfeiffer bid 64 cents per cubic yard for excavation; Graham & McKeon, 29 cents, and Martin Hansen, 48 cents; there are, approximately, 2,000 cubic yards of excavating necessary; the contracts were awarded as follows: Elizabeth street, Johan Jensen; Charles street, Dahl & Dressler; Cortlandt street, Martin Hansen; Catherine street, Johan Jensen; Johnstone street, Graham & McKeon; the contractors cannot start work until notified by the Street Commissioner, which will be done when Contractor Jensen has made sufficient progress on the State street sewer, with which these sewers will connect.

**Union Hill, N. J.**—Proposals for the paving of Broadway from the intersection of the Bullferry Road to the northern boundary of the township, with specification blocks, were as follows: Nolan & Hornung, \$9,707.80; Robertson, \$10,374.75, and Palisade Construction Company, \$11,127.50.

**Syracuse, N. Y.**—The proposals received for the Comstock avenue paving contracts received by the Board of Contract and Supply, June 10, are as follows:

Paving Comstock avenue from Harrison street to Euclid avenue, Warner-Quinlan Asphalt Paving Company, bitulithic with stone curbing, \$30,104.90; bitulithic with cement curbing, \$32,036.90; asphalt with stone curbing, \$32,177.90; asphalt with cement curbing, \$34,109.90; Warren Brothers Company, bitulithic with stone curbing, \$31,235.90; bitulithic with cement curbing, \$32,201.90; Central City Paving Company, asphalt with stone curbing, \$30,989.40; asphalt with cement curbing, \$32,438.40; Fred J. Baker, asphalt with stone curbing, \$32,360.40; asphalt with cement curbing, \$34,292.40.

Paving Comstock avenue from Madison street to Harrison street, Warren Brothers Company, bitulithic with stone curbing, \$4,326.50; bitulithic with cement curbing, \$4,494.50; Warner-Quinlan Asphalt Paving Company, bitulithic with stone curbing, \$4,356.30; bitulithic with cement curbing, \$4,650.30; asphalt with stone curbing, \$5,679.30; asphalt with cement curbing, \$5,973.30; Central City Paving Company, asphalt with stone curbing, \$5,402.40; asphalt with cement curbing, \$5,696.40; Fred J. Baker, asphalt with stone curbing, \$5,184.80; asphalt with cement curbing, \$5,520.80.

Proposals were received for sewer contracts as follows:

For constructing a 15-inch pipe sewer in

Westcott street from Euclid avenue to Jerome street, Samuel Bonn, \$2,378; C. T. Hookway, \$2,419; John Davin, \$2,523; Alexander Barr, \$2,575; James Swift, \$2,693; H. B. Failing, \$2,774.80; Frank Sposato, \$3,215.50.

For constructing a 12-inch pipe sewer in Stolp avenue from Summit avenue to Dudley street, C. T. Hookway, \$1,202; James Swift, \$1,444; Samuel Bonn, \$1,574; John Davin, \$1,642; Frank Sposato, \$1,755.

For constructing a 12-inch pipe sewer in Primrose avenue from Midland avenue to east line of Primrose avenue, C. T. Hookway, \$921; John Davin, \$955; Samuel Bonn, \$993; James Swift, \$1,158; Alexander Barr, \$1,199; Frank Sposato, \$1,392.

The proposals received for grading Dwight street from Elsevier avenue to Manlius street follow: C. T. Hookway, \$1,402; Samuel Bonn, \$1,475.50; A. Gaffey, \$1,532.

**Watertown, N. Y.**—Mulder Brothers, of Albany, have been awarded contract for paving sections of Court, Factory, Mill and Pearl streets with sandstone blocks, and Charles J. Haley for constructing concrete curbs and gutters in Mullin, Paddock and Winslow streets.

**University, N. D.**—Bids were received on University buildings as follows:

School of Mines Building.	
Bailes & Perkins .....	\$25,070
Berge & Hodson .....	20,800
Hogiund Bros. ....	21,937
Dinnie Bros. ....	19,998
General Construction Co. ....	22,275
Library Building.	

General Contract:	
Gen. Const. Co. ....	\$25,477
Bailes & Perkins .....	33,796
*Berge & Hodson .....	23,400
Dinnie Bros. ....	28,500

Tue Roofing and Sheet Metal:	
Barnes & Nuss .....	\$2,322
*Harry C. Knisely & Co. ....	1,680

Sewerage and Plumbing:	
Spriggs Bros. ....	\$640
Grand Forks H. & P. Co. ....	810
*B. O. Paulsness .....	425

Steam Heating:	
*Spriggs Bros. ....	\$1,720
Grand Forks H. & P. Co. ....	1,738
B. O. Paulsness .....	1,795

Electric Wiring:	
*White City Electric Co. ....	\$809.50

Gymnasium Building.	
General Contract:	
Hogiund Bros. ....	\$24,450
Bailes & Perkins .....	23,970
*Berge & Hodson .....	20,955
Dinnie Bros. ....	23,730
Gen. Const. Co. ....	21,500

Sewerage and Plumbing:	
*Spriggs Bros. ....	\$1,190
Grand Forks H. & P. Co. ....	1,430
B. O. Paulsness .....	1,275

Steam Heating:	
Spriggs Bros. ....	\$2,350
*B. O. Paulsness .....	2,140
G. F. P. & H. Co. ....	2,160

Electric Wiring and Fixtures:	
*White City Electric Co. ....	\$862

Lockers:	
Churchill & Spaulding .....	\$1,585.86
Tile Roofing and Sheet Metal Work:	
Barnes & Nuss .....	\$2,862
*Knisely & Co. ....	2,220

**Cady, O.**—Norwich & Timmons have been awarded contract to lay 17,700 square yards of brick on eight inches of broken stone, at \$1.50 1-3 per square yard, including necessary curbing; the totals of bids received were: McLaughlin & Branson, \$35,177; E. A. Freshman & Son, \$28,678; Rosser & Maloney, \$30,440; Gid E. Clifford, \$32,500; Dixon & Pickett, \$29,674; Rinehart Brothers, \$27,605; Warwick & Timmons, \$26,619.—W. H. Lucas, Town Clerk.

**Conneaut, O.**—Burrell & Kehoe were low bidders for constructing 1,600 ft. 8-inch tile sewers at 75 cents, 325 feet 10-inch tile, 80 cents, and 84 feet 10-inch cast-iron sewer to be laid under railroad tracks at \$2; manhole, \$35; all to be laid in 7-foot trench, hard pan and clay excavation, and no paving to be excavated and relaid; flush tanks, excluding flushing appliance, \$35; wages of common labor, \$2 per day; the total of bids received were: Wm. Burkhardt, Cleveland, \$2,674; J. J. Farrell & Co., Ashtabula, \$2,121.75; Wm. Fortune, Conneaut, \$1,164.75; Burrell & Kehoe, Conneaut, \$2,008.50; Emil Barton, Conneaut, \$2,460.—T. F. Linneger, City Engineer.

**Coshocton, O.**—Surveyor Bock has submitted his estimate of the cost of changing the course of the Tuscarawas river and making the total improvement at the Newcomerstown bridge at \$14,000 and it has been approved.

**Columbus, O.**—A. G. Pugh has been awarded the contract for the improvement of Third avenue with asphalt at \$9.169.

**Cuyahoga Falls, O.**—The Council has awarded a contract for paving North Front street to Jno. J. O'Neill, of Akron, with Bessemer brick at \$16,000.

\*Contracts were awarded to bids marked (\*).



**Lancaster, O.**—Thos. W. Hill, of Bellefontaine, has the contract for the 30-inch Park street sewer at \$10,967.

**Middletown, O.**—F. W. Kemp & Sons have been awarded the contract for paving at Piqua, O., amounting to \$20,000.

**Norwalk, O.**—Penny & Corron, of Lorain, have been awarded the contract for the West Main street sewer; Guy North, of Bellevue, has the contract for constructing the joint county pike road between Erie and Huron counties, a distance of one-half mile west from North Monroeville, at \$2,000.

**Cleveland, O.**—The Cleveland Trinidad Paving Company has the contract for all the sheet asphalt paving to be done in the city of Saginaw this summer. Herman H. Eymmer, W. N. Sager and Jno. C. Davies, Saginaw, contractors, received several contracts for paving with bitulithic macadam.

**Lindsey, O.**—Witte & Magee, of Elmore, have been awarded contract to construct 7,190 square yards of Metropolitan paving block on 8-inch crushed limestone and 2-inch lake sand foundation, at \$1.38 per square yard; 5,190 yards earth excavation, at 30 cents; coal tar cement filler at 12 cents per square yard additional, or \$1.50; also for setting 4,720 feet 4x20-inch new curb at 36 cents, 390 feet circular curb, 45 cents, and 410 feet headers, 33 cents; the total bids were: Hunker, Williams & Lyons, Elyria, \$15,949.20; James Suhnan, Toledo, \$14,150.04; Modern Construction Company, Fremont, \$13,999.20; G. H. Heffner & Son, Celina, \$14,711.60; Witte & Magee, Elmore, \$14,169.50; A. J. Sturgh, Galion, \$14,640.60; M. F. O'Sullivan, Toledo, \$14,166.60; Theo. W. Hill, Bellefontaine, \$15,731.90; Wm. H. Eisenhour, Fremont, \$13,773.48; the bids lower than Witte & Magee were not regular, and were therefore rejected.—J. C. Overmeyer, Fremont, Engineer.

**Lisbon, O.**—The contract for improving a mile of the Salem and Lisbon roads has been awarded to Geo. G. Smith and Brothers, of Salem, at \$7,500.

**Toledo, O.**—H. P. Streicher and Company have been awarded a contract for 7,000 square yards of Acme asphalt.

**Springfield, O.**—Doyle and Cafferty have been awarded contract to construct the Ferncliff avenue and Park place sewer at \$2,903, although it was \$286 above the estimate; the bid of Huncker & Williams, \$2,410.20, which was low, was informal; M. J. Hannon has the contract for the remainder of the Ferncliff and College avenue sewer; Joseph Bolan has contract for Main street and Grape alley sewers at \$1,601.40, and Thos. E. Wren & Co., for grading and graveling West High street, at \$1,977.

**Piqua, O.**—Kemp & Sons have been awarded contract for 6,528 square yards brick at \$1.34, total, \$7,507; the Andrews Asphalt Company bid \$8,747; Martin & Shannon, \$7,703, and J. E. Conley & Co., \$7,637; The Andrews Paving Company has contract for resurfacing 17,038 square yards with asphalt at \$1.51, total, \$25,727; the Barber Asphalt Company bid \$26,238 and the Western Construction Company \$27,094.—W. B. Mitchell, Board of Public Service.

**Portsmouth, O.**—Kelly Brothers are low bidders for paving Young street and will be awarded the contract.

**Springfield, O.**—Doyle & Cafferty have been awarded the contract for the construction of the outfall sewer, over 6,000 feet long. Their bid was on 16-inch standard iron, 24-inch vitrified pipe, 34-inch concrete, 24-inch reinforced concrete, 36-inch concrete, manholes, culverts, etc.

**Steubenville, O.**—The Commissioners have awarded to J. F. Strainer, Samuel Baillie, J. D. Carnes, Wm. Jackson, Rawlins and Simpson and E. N. Fox contracts for pike repairs amounting to about \$35,000; Robert T. McConnell has the contract for constructing the Dock street sewer and the Ohio Plaster and Supply Company has the contract for the materials.

**Wadsworth, O.**—P. T. McCourt has signed the contract for paving Main street and has commenced the work.

**Youngstown, O.**—North Heights avenue and Fifth avenue will be paved with block asphalt by Veeder Heasley. Ohio avenue with block asphalt to Mullen, Millor & Caldwell. Butler avenue and Florence avenue to Martin Conley. McKinney street will be sewered by Gartland Brothers, and Williamson avenue will be paved with brick by Chas. Harris. The aggregate of these contracts is over \$60,000.

**Eugene, Ore.**—Council has awarded contract for sprinkling streets to F. P. Close and A. S. Powers for \$20 per month per block in the business districts and \$8 per month per block in the residence districts.

**Chattanooga, Tenn.**—The following sewer bids were received for districts 7 and 9: West Construction Company, \$88,202.45; Gould & Co., \$89,488.63; Noll Construction Company, \$101,939.18; Sullivan & Long, Bessemer, Ala., \$103,169.33; E. T. Lewis & Co., Nashville,

\$105,137.06; Bosler & Flynn, \$105,972.38; awarded to Guild & Co. The following bids were received on Sections 1, 2, 3, 4 and 6: Noll Construction Company, \$136,986.17; West Construction Company, \$151,513.35; Bosler & Flynn, \$170,405.08; Guild & Co., \$174,341.78; Sullivan & Long, \$179,711.14; E. T. Lewis, Company, \$184,265.99; awarded to the Noll Construction Company.

**Salt Lake City, Utah.**—The Board of Public Works June 1 opened bids for the construction of hoppers for the loading of garbage at the station being erected for that purpose on the line of the Salt Lake & Ogden railroad. The City Engineer offered to do the work for \$4,100, but the Mayor vetoed the proposition; the lowest bid was by Black & Laffer, whose bid was \$4,650. A. Campbell bid \$4,800.—L. C. Kelsey, City Engineer.

**Portland, Ore.**—Contract for 20,060 square yards of bitulithic has been awarded the Warren Construction Company.

**Doylestown, Pa.**—The Doylestown & Eastern trolley road has been purchased by J. Carroll Williams, of Philadelphia, for \$100,000.

**Edensburg, Pa.**—W. H. Herr & Co., of Altoona, have been awarded contract for grading and paving with Windber and Patton bricks, Julian street and Cherry alley, at \$1.54 for the Windber and \$1.48 for the Patton block; Binder & Azaara bid \$1.43 per square yard, Windber brick, with 40 cents per square yard extra for excavation; John Ceresa has been awarded contract for setting the curb at 72 cents per lineal foot for native stone and 18 cents for resetting; Herr & Co. bid 85 cents for sandstone, 66 cents for Portland concrete, \$1.25 for a radius of concrete corners and 18 cents for resetting.

**Knoxville, Tenn.**—R. T. Wardrep has been awarded contract to build the East Knoxville fire hall, at \$4,513.80; the Hall Lumber Company bid \$5,987; D. A. Griffin & Son, \$5,500; Brimer & England, \$7,475; A. Gass, \$5,929; Borches & Wardrep, \$5,788; L. A. Galyon, \$6,443.17; Pettit & Barber, \$7,795.33.

**Levant, Vt.**—Bids were opened for laying water pipe and building the storage reservoir and for the furnishing pipe; for laying the pipe and constructing the reservoir the lowest bidder was W. S. Ames, of Saranac Lake, N. Y., \$30,249; the other bid was that of Pennington & Butler, of Plattsburgh, N. Y., \$34,000; for furnishing the pipe, the Michigan Pipe Company, of Bay City, Mich., bid \$38,104, and the Wickoff Supply Company of Elmira, N. Y., bid \$42,000.

**Norfolk, Va.**—Bryan & Company, Jacksonville, Fla., have been awarded contract for laying about four miles of sewer pipes in the Seventh Ward, for approximately \$68,000.—W. T. Brooke, City Engineer.

**La Crosse, Wis.**—The Board of Public Works has awarded the following contracts: La Crosse Stone Company: Paving with macadam, Eighth street, 8,891.9 square yards, including 7,245.5 feet of cement curb and gutter, 3,101 cubic yards of grading and 410 square feet of concrete driveways, at \$11,956.16; Sixth street, 7,641 square yards macadam, 4,454 lineal feet cement curb and gutter, and 2,500 cubic yards grading, at \$8,138.76; Kane street, 8,503 square yards macadam, 5,968 feet cement curb and gutter, and 3,100 yards grading, at \$9,871.60; also for constructing 711.8 square yards completed pavement, 3,168 cubic yards of grading, 640 lineal feet of headers, 1,598 lineal feet cement curb and gutter, and 2,667.2 square yards brick paving, laid in 6 inches of concrete, at \$6,298.16. Wooley & Hanson have contract for improvements in Cass street, including 9,221 square yards of creosoted wood block paving laid on 6 inches of concrete, 5,623 feet combined cement curb and gutter, 3,100 yards of grading, and 3,500 feet of concrete driveways; the La Crosse Stone Company also has contract for paving and other improvements in alley between Sixth and Seventh, State and Main streets, at \$6,298.16.

**Madison, Wis.**—The Capitol Commission has awarded the contract for furnishing the material and doing the steel structural and masonry work on the west wing of the new Capitol to T. C. McCarthy, of Madison, at about \$128,764.

**Tomah, Wis.**—E. R. Havelroid, of Racine, has been awarded contract for constructing about 5½ miles of sewer and septic tank, as follows: Septic tank, \$3,900; 2,749 feet 20-inch pipe, \$1.28 per lineal foot; 299 feet 15-inch pipe, 82 cents; 4,570 feet 12-inch pipe, \$1.14; 3,952 feet 10-inch pipe, 70 cents; 17,331 feet 8-inch pipe, 45 cents; 160 manholes, \$24 each; 10 flush tanks, \$65; rock excavation, \$5 per cubic yard; total, \$27,929.05; excavation ranges from 4 to 15 feet; average depth, 6½ feet.—D. J. Allen, City Clerk.

**Toronto, Ont., Can.**—A contract for 14,323 square yards of paving has been awarded the Warren Bituminous Paving Company.

## LEGAL NEWS

### A Summary and Notes of Recent Decisions—Rulings of Municipal Interest

#### CONTRACT WITH CITY OFFICIAL

**Noxubee vs. City of Macon.**—The plaintiff, a city alderman, sought to enjoin the performance of a contract between the city and another alderman as being prohibited by the State Constitution. It was contended in defense that the plaintiff had engaged in a similar transaction. It was held that the plea constituted no defense.—Supreme Court of Mississippi.

#### MILK LICENSE

**People vs. Department of Milk.**—The plaintiff held a license to sell milk, in accordance with an ordinance, which license was revoked without the authority of any ordinance, although a statute allowed breaches of the "Sanitary Code" to be punished by fines, imprisonment or forfeitures. It was held that the revocation was void, part of the court basing their decision upon the ground that in the absence of an ordinance authorizing the Board of Health to act, it had no right to take any action, but also declaring that it could not be revoked in any event without notice to the relator and a hearing.—Supreme Court of New York.

#### PUBLIC DRAINAGE

At the request of Commissioner of Health Dixon, of Pennsylvania, Attorney-General Carson has given his opinion that contrary to the general opinion the Governor, Attorney-General and Commissioner of Health may restrain the building of a sewer discharging into a stream used for water supply. It had been assumed previously that these officials could only forbid the use of a sewer. The Attorney-General states that these officials, acting under the authority of the act of April 22, 1905, P. L. 260, may become parties plaintiff in a bill of equity to restrain such a structure, whether in the course of erection or after completion.—Supreme Court of Pennsylvania.

#### EXCESSIVE VALUATION

**Mundy vs. Water Commissioners, Perth Amboy.**—The opinion by Judge Garrison is as follows: "The resolution adopted by the Board of Water Commissioners of the city of Perth Amboy for the purchase of 32¼ acres of land at Runyon pumping station for the sum of \$15,500 should be set aside. The testimony shows that from recent sales and even a recent purchase of substantially similar land by this Board it could reasonably have been apprehended that the fair market value of the tract of 32¼ acres would not exceed \$1,000. The Board has had conferred upon it by the Legislature the power of condemnation to meet just such a situation as this. Under these circumstances the failure of the Board to have recourse to proceedings in condemnation in view of the excessive price demanded, is an unreasonable and improvident exercise by the Board of the powers conferred upon it. The resolution is set aside."—Supreme Court of New Jersey.

## NEWS OF THE SOCIETIES

**National Municipal League.**—A report of the Executive Committee and Treasurer of the National Municipal League, covering the year ending April 1, 1907, shows a satisfactory increase in membership—from 1,149 to 1,348. The receipts were \$10,775, nearly half of which was from contributions. Several committees have carried on effective work, such as those on Municipal Taxation, Lawson Pindy, chairman; Municipal Accounts and Statistics, Dr. Edward M. Hartwell, chairman; Coordination of University and Collegiate Instruction in Municipal Government, Dr. W. W. Pierson, acting chairman; and the Advisory Committee, Charles S. De Forest, chairman.

**North Dakota Municipal League.**—A three days meeting in conjunction with the State Civic League began at Valley City, N. D., June 4. There was a large attendance of delegates, 17 cities being represented as well as a large number of improvement leagues. On the first day John McVicar reviewed the various kinds of municipal governments of the United States. Senator H. C. Hansbrough spoke on the "Development of North Dakota Cities."

**American Society for Testing Materials.**—The tenth annual meeting of the society will be held at the Hotel Chalfonte, Atlantic City, N. J., June 20, 21 and 22. Beginning on Thursday afternoon there will be two sessions each day. In the morning sessions of Friday and Saturday the membership will divide between the cement and the preservative coatings meetings on the former day and between the iron and steel and the concrete, fireproofing and waterproofing meetings on the latter. At the opening session on Thursday afternoon will come the report of the Executive Committee, the election of officers and the transaction of miscellaneous business. The following reports and papers are also scheduled for the session:

The Raw Material Supply. P. H. Knight and C. E. Skinner.

Report of Committee J, on Standard Specifications for Coke. C. H. Zehnder, Chairman.

The Purchase of Coal Under Specifications and Method of Testing. S. S. Voorhees.

Cast Iron—Some Causes of Failure in Service. Robert Job.

Notes on Brick Pier Tests. J. E. Howard. Report of Committee Q, on Standard Specifications for the Grading of Structural Timber. Hermann von Schrenk, Chairman.

The Effect of Moisture on the Strength and Stiffness of Wood. H. D. Tiemann.

The papers to be presented at the following sessions are given below. Friday evening is left open for recreation:

Thursday, June 20, 8 p. m.—Annual Address by the President: The Enforcement of Specifications; Tests of Concrete Columns. A. N. Talbot. Some Additional Notes on Tests of Concrete Columns. I. E. Howard. The Testing of Wooden and Reinforced Concrete Telegraph Poles. R. A. Cummings. The Corrosion of Iron. Allerton S. Cushman. The Influence of Stress Upon the Corrosion of Iron. W. H. Walker and Colby Dill.

Friday, June 21, 10 a. m. Cement Section. Report of Committee C, on Standard Specifications for Cement. George F. Swain, Chairman. Avoidable Causes of Variation in Cement Testing. E. B. McCready. Some Problems of a Cement Inspecting Laboratory. R. S. Greenman. The Specific Gravity of Portland Cement. R. K. Meade. The Control of Physical Test Results in Portland Cement. W. A. Aiken. The Effect of Oil on Concrete. R. C. Carpenter. The Structural Materials Testing Laboratories. U. S. Geological Survey: Progress During the Year Ending June 30, 1907. R. L. Humphrey. Preservative Coatings and Lubricants Section. Report of Committee E, on Preservative Coatings for Iron and Steel. S. S. Voorhees, Chairman. Priming Coats for Metal Surfaces. Linseed Oil Versus Paint. F. P. Cheesman. Deleterious Ingredients in Paints. L. S. Hughes. Discussion to be opened by G. W. Thompson and F. P. Cheesman. The Physical Properties of Paint Films. R. S. Perry. Physical Testing of Varnishes. J. C. Smith. Discussion to be opened by C. B. Dudley. Robert Job and A. H. Sabin. Paint Legislation. E. F. Ladd. Report of Committee H, on Standard Tests for Lubricants. A. H. Gill, Chairman.

Friday, June 21, 3 p. m. Iron and Steel Section. Report of Committee A, on Standard Specifications for Iron and Steel. W. R. Webster, Chairman. General Discussions on Modern American Steel Rails. This discussion will be opened by representatives of leading railroads, rail manufacturers, locomotive builders, car wheel manufacturers and inspecting engineers. Segregation in Steel Ingots. H. M. Howe. Effect of Conditions of Rolling on Certain Properties of Steel. H. M. Howe and William Campbell. The Heat Treatment of Steel. William Campbell. Mechanical Experiences with Limber and Stiff Rail Sections. P. H. Dudley.

Saturday, June 22, 10 a. m. Iron and Steel Section. Report of Committee on Standard Specifications for Staybolt Iron. H. V. Wille, Chairman. Results of Tests of Staybolt Iron. E. L. Hancock. Report of Committee T, on the Tempering and Testing of Steel Springs and Standard Specifications for Spring Steel. J. A. Kinkead, Chairman. Report of Committee O, on Uniform Speed in Commercial Testing. Paul Kreuzpointner, Chairman. The History and Development of the Alloy Practice in the United States as Applied to Railway Bearings. G. H. Clamer. Compressive and Transverse Tests of Steel Connecting Rods for Locomotives. Gaetano Lanza. Tension Tests of Steel Angles. F. P. McKibben. Concrete, Fireproofing and Waterproofing Section. Report of Committee I, on Reinforced Concrete. F. E. Turneaure, Chairman. Report of Committee P, on Fireproofing Materials. Ira H. Woolson, Chairman. Investigation of the Thermal Conductivity of Different Concrete Mixtures, and the Effect of Heat Upon Their Strength and Elastic Properties. Ira H. Woolson. Effect of Time Element in Loading Reinforced Concrete Beams. W. K. Hatt. Tests of Twisted Steel Square Rods for Concrete Reinforcement. J. J. Shuman. Tests of Bond Between Steel and Concrete. T. L. Condon. Report of Committee S, on Waterproofing Materials. W. A. Aiken, Chairman.

Saturday, June 22, 3 p. m. Testing Machines and Apparatus. Report of Committee K, on Standard Methods of Testing. Gaetano Lanza, Chairman. The National Bureau of Standards. S. W. Stratton. The White-Souther Endurance Machine. H. Souther. Notes on the Endurance of Steels Under Repeated Alternate Stresses. J. E. Howard. Effect of Combined Stresses on the Elastic Properties of Steel. E. L. Hancock. A New Impact Machine. L. W. Page. The Development of the Penetrometer as Used in the Determination of the Consistency of Semisolid Bitumens. Clifford Richardson and C. N. Forrest. Multiplying Dividers for Locating Yield Point. J. A. Capp. An Instrument for Measuring Deformation in Tests of Materials. H. F. Moore.

**Society for the Promotion of Engineering Education.**—The Society issues a pamphlet containing a list of officers and members and the constitution. Bound volumes of the Proceedings may be obtained from the Secretary or the Publishers. Wm. T. McGruder, Secretary, Ohio State University, Columbus, Ohio.

**National Playgrounds Association.**—In accordance with the suggestion of President Roosevelt, it is believed that delegates from all large cities will attend the meeting at Chicago, June 20-22. Among the papers to be read will be the following: "Social Value of Playgrounds in Crowded Districts," by Lawrence Veiller; "Play and Democracy," by Dr. Luther H. Gulich, President of the Association; "Public Recreation and Social Morality," Jane Addams; "Play As a Training in Citizenship," Joseph Lee; "How to Obtain a Playground," Mrs. Samuel Ammon; "The Small Parks of Chicago," J. Frank Foster; "Playgrounds in the Prevention of Tuberculosis," Dr. H. B. Favill; a discussion of the question, "Should Municipal Playgrounds be Controlled by the Board of Education?" will be participated in by Dwight H. Perkins, Professor Royal Melindy, Professor Charles Zueblin, Commissioner Henry B. F. Macfarland.

## Calendar of Meetings

June 17-22.

American Water Works Association.—Twenty-seventh annual convention, Toronto, Ontario, Canada.—Dabney H. Maury, President; J. M. Diven, Charleston, S. C., Secretary.

June 18-20.

Municipal League of Indiana.—Meeting, Logansport, Ind.—Councilman J. T. McNary, Chairman, Local Committee, Logansport.

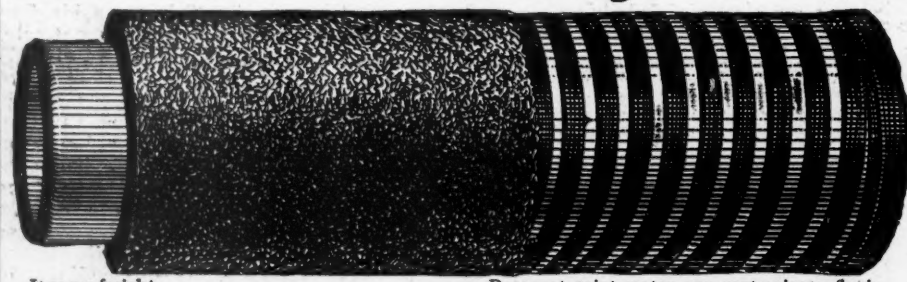
June 18-21.

Iowa State Firemen's Association.—Tournament, Sioux City, Ia.—E. E. Parsons, Secretary, Marion, Ia.

June 20-22.

American Society for Testing Materials.—Annual meeting, Atlantic City, N. J.—Edward Marburg, Secretary, University of Pennsylvania, Philadelphia.

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It prevents electrolysis.

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It is more durable than wrought iron or steel.  
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By its continued use its capacity does not decrease, whereas that of iron or steel does decrease yearly.

Its initial capacity is 15% greater than that of cast-iron pipe.

It needs no skilled labor in laying.

It can be laid with less width of excavation.

It can be laid at less depth because it is not as readily affected by frost as is either iron or steel.

It can be laid in the wettest kind of a trench.

Salt water does not affect it.

There is no extra cost for caulking joints in laying.

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June 20-22.

The Playground Association of America.—First Annual meeting, Chicago, Ill.—Dr. H. S. Curtis, Secretary.

June 25-27.

Ohio Fire Chiefs' Association.—Convention, Chillicothe, O.—D. K. Mosher, Secretary, Warren, O.

June 25-27.

North Dakota State Firemen's Association.—Tournament, Oakes, N. D.—H. L. Read, Secretary, Bismarck.

June 25-28.

American Institute of Electrical Engineers.—Annual meeting, Niagara Falls, N. Y.—Ralph W. Pope, Secretary, 29 West 39th street, New York City.

June 26-28.

International Association for the Prevention of Smoke.—Second annual convention, Milwaukee, Wis.—Charles Poetke, Smoke Inspector, Milwaukee, Wis.

July 5-6.

Texas Mayors' Association.—Convention, Amarillo, Tex.—Tom W. Perkins, McKinney, President.

July 8.

American Society of Civil Engineers.—Annual convention, Mexico City.—Charles Warren Hunt, Secretary, 220 West 57th street, New York City.

July 17-19.

National Electrical Contractors' Association.—Seventh annual convention, New York City.—J. C. Hatzel, Chairman, 571 Fifth avenue, New York, N. Y.

August 6-8.

American Association of Park Superintendents.—Annual convention, Toronto, Ont.—F. L. Mulford, Secretary, Harrisburg, Pa.

August 7-9.

The International Association of Municipal Electricians.—Annual convention, Jamestown Exposition, Norfolk, Va.—F. P. Foster, Secretary, Corning, N. Y.

August 20-23.

New York State Firemen's Association.—Convention, Elmira, N. Y.

September 17-19.

American Society of Municipal Improvements.—Annual convention, Detroit, Mich.—George W. Tillson, Secretary, 13 Park Row, New York City.

September 17-19.

League of Iowa Municipalities.—Tenth annual convention, Council Bluffs, Iowa.—T. G. Pierce, Secretary, Marshalltown, Ia.

## INCORPORATIONS

Lyth Tile Company, Buffalo, N. Y.; to manufacture sewer pipe and clay products; capital, \$150,000. Incorporators: Samuel E. Lyth, Augustus H. Stowell, 48 West Eagle street; W. W. Chamberlain, 664 Elliott square, all of Buffalo, N. Y.

International Subway and Tunnel Ventilating Company, New York; to construct subway tunnels, mines, etc.; capital, \$50,000. Incorporators: James M. Caxlow, 73 Nassau street; J. A. Greene, 122 West Thirty-fourth street; J. Blackwood Kay, 460 West Thirty-fourth street, all of New York.

Taylorville Utility Company; to manufacture light, heat, power and ice; capital, \$5,000. Incorporators: Albert Morgan, James A. Adams, Merle Perkins.

Ellis Stone Company, Schenectady, N. Y.; to quarry and crush stone; capital, \$6,000. Incorporators: James C. Aiken and Nelson P. Ellis, Schenectady, N. Y.; Jacob A. Hartman, Johnstown, N. Y.

Sullivan Engineering Company, Hudson, N. Y.; to manufacture electric, steam and water generators; capital, \$20,000.

M. T. Davidson Company, Brooklyn; to manufacture steam pumps, hydraulic machinery, etc.; capital, \$400,000. Incorporators: Marshall T. Davidson, 105 James place; William C. Newell, 275 Halsey street; John Lowe, 743 Rogers street; William A. Drewett, 524 Lafayette avenue, all of Brooklyn; Orin Baldwin, New York.

Bridgeport Light and Equipment Company, Bridgeport, Conn.; to install appliances for gas and electricity; capital, \$45,000. Incorporators: J. Harry Crossley, H. A. Sherwood and James A. Turner.

Webster Gas Company, Webster, N. Y.; to manufacture gas for light, heat and power; capital, \$10,000. Incorporators: James Raines, Canandaigua, N. Y.; G. L. Meade and Horatio Straus, Rochester, N. Y.

## PATENT CLAIMS

855,350. Hydrant. James W. Singmaster, Macungie, Pa., assignor of one-half to Horace F. Neumeyer, Macungie, Pa. Serial No. 274,755.

In a hydrant, the combination with a casing having a liquid passageway including a counterbored portion forming a valve seat,

of a stem having a shank longitudinally movable in the passageway, a valve disk slidably mounted on the shank and movable into and out of engagement with the seat to close the liquid passageway, and a compressible and expansible collar mounted on the shank behind the disk, said collar being expanded and compressed against the walls of the counterbore when the disk is seated.

855,473. Meter. Adam H. McAlpine, Columbus, Ohio. Serial No. 352,573.

The combination with the body portion of a meter, of a cap adapted to cover the registering mechanism of the meter, a bayonet joint between said body portion and said cap, and a cup adapted to receive a fusible material located adjacent the bayonet joint.

855,518. Apparatus for Elevating Water by Means of Compressed Air. Andrew M. Lockett, New Orleans, La. Serial No. 323,253.

In apparatus for elevating water by means of compressed air, a water discharge pipe, a plurality of means for supplying compressed air thereto at different depths, and automatically controlled means for intercepting the flow through said supply means in succession, beginning with the uppermost. 855,677. Pick Having Detachable Points. Albert Thompson, Newburgh, N. Y. Serial No. 313,456.

In a pick, the combination with a holder or head having an eye for the handle or helve and cylindrical sockets located in alignment with each other and opening into the eye aforesaid, of pick points having cylindrical shanks received in said sockets, and means for holding the pick points.

855,771. Truck-Ladder. Thomas Haines, St. Louis, Mo. Serial No. 309,979.

A truck ladder comprising a truck, a turntable mounted thereon, a ladder and main and secondary lifting booms pivotally mounted on said turntable, said booms having a sliding connection, and means for shifting said sliding connection, said means comprising cylinders mounted at the ends of the main booms and connected with a source of pressure and having pistons connected to said sliding connection.

INSTRUCTOR.—Capable man to teach Applied Mechanics, Descriptive Geometry and Surveying in leading western college; good salary to start; other desirable teaching positions. Hapgoods, 305 B'way, New York.

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## PERSONALS

BIDDLE, MAJOR, Corps of Engineers, U. S. Army, until recently Engineer Commissioner of the District of Columbia, has been promoted to Lieutenant-Colonel as a result of the retirement of Lieut.-Col. George McC. Derby. Capt. Spencer Cosby, Engineer Officer in charge of the Washington Aqueduct, has been promoted to be Major; First Lieut. Gilbert A. Youngberg to be Captain, and Second Lieut. Clarence S. Ridley, to be First Lieutenant.

BIGELOW, WALTER J., Mayor of Burlington, Vt., recently installed, has ordered that sidewalks must be kept clear of obstructions by merchants and other citizens, and the police have been instructed to enforce the order.

BRADSTREET, HOWARD, who has been active in civic and social work in Rochester, N. Y., has been appointed secretary of the Metropolitan Parks Association of New York City, to succeed Archibald A. Hill; Eugene A. Phillin is President of the Association, which is interested in the work of maintaining parks and playgrounds, particularly in the tenement districts.

DAVIDSON, GEORGE I., has been nominated as Building Inspector of Grand Rapids, Mich., by Mayor George E. Ellis, and confirmed by the Common Council.

D'HEMMECOURT, GEORGE A., City Attorney of San Diego, Cal., has resigned.

ERICSON, JOHN, City Engineer of Chicago, Ill., will assume the duties of Engineer-in-Chief of the intercepting sewers, during the leave of absence of N. A. Shaw, and he will also have charge of all the pumping stations throughout the city.

FEUSTMAN, LEON P., of New York City, has been elected First Vice-president of the International Steam Pump Company, to succeed Marcus Stine. Mr. Feustman is a new director and is also the President of the Power and Mining Machinery Company. Nathan Fleischer, another new director, was elected Treasurer, to succeed Max Nathan. Mr. Fleischer is identified with the Gugenheim interests.

HAVELAND, W. K., has been elected Mayor of Estacada, Ore., over J. W. Reed, the present incumbent.

HEFLIN, JOHN T., has been elected Mayor of Roanoke, Ala., and W. Y. Chewning, G. H. Handley, E. P. Mickle, W. H. Stewart, and Wyatt W. Wood, Councilmen.

HOTCHKISS, COL. WILLIAM D., Assistant City Engineer of Chicago, Ill., who had been in the employ of the city for 24 years, and was a graduate of the Massachusetts Institute of Technology, died recently. During the Spanish War he was in command of the Second Illinois Volunteer Infantry, which saw service in Cuba.

KESSLER, GEORGE E., Landscape Architect, has had his plans for a park and boulevard system for the City of Syracuse, N. Y., accepted by the Park Commission, of which James W. Pennock is Chairman.

KNOWLTON, JOHN C., has been re-elected as a Commissioner of Water Works of Watertown, N. Y.

LANE, HARRY, has been re-elected Mayor of Portland, Ore., over T. C. Devlin.

MARKLEY, ISAAC B., New York City, has been elected a Vice-president of the Eureka Fire Hose Company, 13 Barclay street, New York City. Mr. Markley has been prominent in the affairs of the Eureka Fire Hose Company for many years.

PIPER, ELMER E., City Engineer of Hagerstown, Md., Samuel B. Johnson, Superintendent of Streets, and the Street Commissioners recently paid a visit to Baltimore to secure information in regard to the best methods of street paving, especially between car tracks, and they were greatly enlightened by City Engineer B. T. Fendall, who gave them the benefit of his experience in the Monumental City and told of what he had observed in other cities in this country and abroad.

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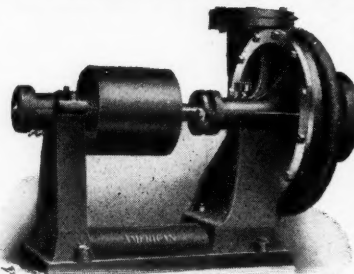
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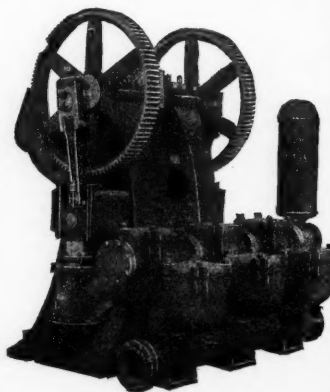
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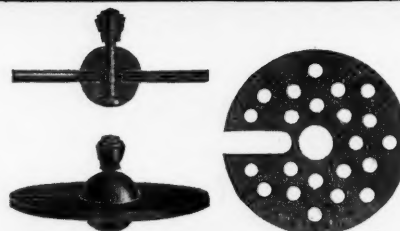
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We get every piece we can, of course, but the matter of greatest concern to us is that every piece shall be GOOD

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